

**AN INQUIRY INTO
KENNETH FRAMPTON'S 'CRITICAL REGIONALISM';
CHARLES CORREA'S GANDHI MEMORIAL MUSEUM
& BALKRISHNA DOSHI'S GANDHI LABOR INSTITUTE**

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A MASTER'S THESIS

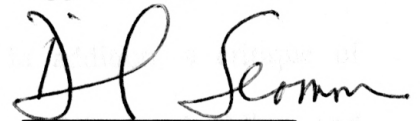
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ABSTRACT

This thesis uses Kenneth Frampton's concept of "Critical Regionalism" (1983, 1984) to analyze the elements of regional content in two buildings in Ahmedabad, India -- the Gandhi Memorial Museum (1963) designed by Charles Correa; and the Gandhi Labor Institute (1984) by Balkrishna Doshi. These buildings have been hailed by architectural critics including Frampton, as being rooted in the place where they are built and as exceptional examples of regionalism.

This thesis uses Frampton's ideas on regionalism as a conceptual framework to discern whether the buildings are rooted in their region and whether they embody regional content according to his idea of "critical regionalism." The two buildings are chosen because of their location in the same city and region. Both the buildings are institutions and strive to embody Gandhian ideas and philosophy. They also show a unique response in the evocation of the sense of a region. The thesis' interpretations are in the form of a qualitative study using the author's observations and evaluations coupled with a discussion of the commentaries that other architectural critics have made of the two buildings.

Broadly, this thesis attempts to establish the way a building can express regional content and the importance of architecture rooted in place. The thesis concludes with a discussion in regard to whether or not the buildings are regional. In addition, a critique of Frampton's "critical regionalism" emerges from the discussion of the two buildings and their relative success as architectural responses to place and region.

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Figures 4.15, 4.16, 4.17, 4.18, 4.25, and 4.26 are taken from Khan, Hassan-Uddin (Ed.). Charles Correa. New York : Concept Media Pte. Ltd, 1987.

The rest of the figures are drawings and photographs done by the author.

CHAPTER 1:

INTRODUCTION

Architects in India and the third world are grappling with a paradox posed by philosopher Paul Ricoeur: "how to become modern and return to the sources."¹ The problem of how best to modernise yet to maintain a core of cultural identity and create an accurate expression of a regional architecture is one of the principal concerns among a new breed of architects interested in architecture of place. Regionalism seems to be one of the most emphasized solutions according to the various architectural critics as a means to end the disorder manifest in the world today. This regional architecture aims at obtaining an expression particular to the location with an evocation of a strong sense of geographical and cultural identity.

Within the literature on regionalism, Kenneth Frampton's concept of critical regionalism raises many provocative issues concerning architecture and regionalism in the present times.² He has been a strong proponent of regionalism and place-making in the last two decades. This thesis uses Kenneth Frampton's critical regionalism to explore a new regional architecture by analyzing the elements of regional content in two buildings in

¹ Paul Ricoeur, "Universal Civilization and National Cultures" (1961), History and Truth, Evanston: Northwestern University Press, 1965. pp. 276-277.

² Frampton, Kenneth. "Ten Points on an Architecture of Regionalism : A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. pp. 20-27.

Frampton, Kenneth. "Towards a Critical Regionalism: Six points for an Architecture of Resistance", in Foster, Hal (Ed.). The Anti-Aesthetic: Essays on Post-Modern Culture, Seattle, WA: Bay Press, 1983. pp. 18-30.

Ahmedabad India -- the Gandhi Memorial Museum by Charles Correa (1963); and the Gandhi Labor Institute by Balkrishna Doshi (1984). These buildings have been hailed by architectural critics, including Frampton, as being rooted in the place where they are built and as exceptional examples of regionalism.³

These two buildings are chosen because of their location in the same city and region, Ahmedabad, in the Indian state of Gujarat. Both buildings are institutions and strive to embody Gandhian ideas and philosophy. They also show a unique response in the evocation of the sense of a region. Using Frampton's ideas on regionalism as a conceptual framework, this study attempts to validate the hypothesis that the two buildings chosen are rooted in the region and that they embody regional content. The interpretations will be in the form of a qualitative study using the author's observations and evaluations coupled with a discussion of commentaries that other architectural critics have made of the two buildings.

Broadly, this thesis attempts to establish one way by which a building can express regional content and an architecture rooted in place. The thesis concludes with a critique and discussion as to whether the two buildings chosen are regional. Also, a critique of Frampton's "critical regionalism" emerges from the critique of the two buildings.

³ Frampton discusses Correa in Frampton, Kenneth. "The fate of Man and Architecture in the East" (Book Review on Charles Correa). MIMAR, Architecture in Development, Vol 26, December 1987. pp. 60-63.

Curtis discusses Correa and Doshi in Curtis, William J. R., "Towards an Authentic Regionalism", MIMAR, Architecture in Development, Vol. 19, Jan.-March 1986. p. 29.

STRUCTURE OF THESIS

This thesis is structured in three parts. The first part (Chapter 2) is a literature review and examines the premise of regionalism. This review emphasizes two major concepts of regionalism: Kenneth Frampton's critical regionalism and William Curtis's authentic regionalism.⁴ The thesis uses this literature review as a means to argue the use of Frampton's ideas on regionalism in making a framework for the examination of a building having a regional content (Chapter 3). This literature review also provides a context for justifying the two buildings to be analyzed in the thesis through Frampton's work.

The second part of the thesis (Chapters 4-6) focuses on the careful scrutiny of the two buildings principally according to the several selected axioms applicable to my Indian condition around which Kenneth Frampton's idea of 'critical regionalism' is based.⁵ A corroboration of the author's interpretation as presented in other critics' comments on the two buildings will be done here in order to provide intersubjective validation. The study takes an analytical form with graphic material in the forms of diagrams, sketches and drawings to illustrate the ideas taken up for examination. An effort is made to keep a parallel graphic study along with the text.

⁴ Curtis, William J. R. "Towards an Authentic Regionalism", MIMAR, Architecture in Development, Vol. 19, January-March 1986. p. 24-30.

⁵ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 20-27.

The final part of the thesis (Chapter 7) concludes by asking whether the two buildings chosen are regional according to Frampton's idea of 'Critical Regionalism'. This section also addresses various issues emerging from the analysis and a critique of Frampton's "Critical Regionalism." This discussion is done in terms of comparisons, contrasts, and critiques of the buildings chosen for examination.

FRAMPTON'S "CRITICAL REGIONALISM"

Kenneth Frampton's idea of "critical regionalism" becomes crucial because this study intends to use his ten axioms in formulating the framework used as a conceptual structure for examining the two buildings by Correa and Doshi. In his book Modern Architecture: A Critical History, Frampton draws attention toward a regionally inflected but critical form of modern architecture which has been in existence for the past forty years or more. He remarks that critical regionalism is a critical category rather than an identifiable artistic movement in the avant-gardist sense.⁶

Frampton describes the idea of critical regionalism as "a position dedicated to place creation and to the sustenance of an intimate and continuous relationship between the architecture and the local society it serves."⁷ The term "critical regionalism," he claims,

⁶ Frampton, Kenneth. Modern Architecture: A Critical History, London: Thames and Hudson Ltd., 1985.

⁷ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 22.

is not intended to denote the vernacular, as was once produced by the interaction of climate, culture, myth, and craft. Rather, the term identifies the 'regional schools' which represent and serve the areas in which they are grounded. Such a regionalism depends on the rapport between the political identity of a society and the architectural profession. Frampton remarks, "It is a dialectical expression. It self-consciously seeks to deconstruct universal modernism in terms of values and images which are locally cultivated, while at the same time adulterating autochthonous elements with paradigms drawn from alternate sources."⁸

In his later work, Frampton provides more precise criteria for determining whether a building expresses "critical regionalism." His argument for an "architecture of resistance" and the idea of "critical regionalism" is proposed as a speculative manifesto, which is more of a proposal rather than a prescription. The main aim is to open a series of issues which ask for a questioning attitude toward architecture. In another article, "Ten Points on An Architecture of Regionalism: A Provisional Polemic," Frampton attempts to provide general guidelines for defining and identifying an architecture associated with critical regionalism. He organizes his argument for "critical regionalism" around the ten points or "axioms," which are listed in table 1.1.⁹

⁸ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 21.

⁹ Ibid., pp. 20-27.

These ten axioms form the core of Frampton's argument for critical regionalism.

These axioms will be the starting point for my evaluation and critique of the two buildings. However, I will not use all the axioms because some of issues they raise are not relevant to my Indian context. Also, I will condense some axioms because the ideas forming these axioms are interlinked. The result is the restated axioms listed in table 1.2. The justification of the six axioms chosen for evaluating the building rather than the use of Frampton's original ten axioms will be discussed in detail in Chapter 2.

1. Critical Regionalism and Vernacular Form
2. The Modern Movement
3. The Myth and the Reality of the Region
4. Information and Experience
5. Space/Place
6. Typology/Topography
7. Architectonic/Scenographic
8. Artificial/Natural
9. Visual/Tactile
10. Post-Modernism and Regionalism: A Summation

Table 1.1: Frampton's original ten axioms.

1. Critical Regionalism and Vernacular Form
2. The Modern Movement
3. The Myth and the Reality of the Region
4. Culture vs Nature: Topography, Climate, Light and Tectonic Form
5. Visual Versus Tactile
6. Space Versus Place

Table 1.2: The six axioms from the original taken for evaluation.

THE TWO INDIAN BUILDINGS

After having presented Frampton's theory of critical regionalism axioms which form the conceptual structure for evaluating the two buildings, I must present and justify the two Indian buildings that I propose to evaluate in terms of Frampton's regional theory.

The architects in India and the third world are grappling with Ricoeur's paradox mentioned earlier on, "how to become modern and return to the sources." The problem of how best to modernise, yet maintain a core of cultural identity and come up with a true expression of a regional architecture is one of the principal concerns among the many third-world architects, including Balkrishna Doshi and Charles Correa, whose buildings I examine in this thesis.

These two buildings are located in Ahmedabad, a city in the Indian state of Gujarat (Figure 1.1). They are chosen because of my strong ties with the region (It is my home). The buildings are in close proximity -- a distance of about six kilometres from each other (Figure 1.2). The buildings are subject to common factors like a strong cultural tradition, heritage, life-style, customs, values and a hot dry climate. Both of the buildings chosen have also been hailed by numerous critics, including Frampton and the architectural press, as being good examples of a building being specifically rooted in a place.

THE GANDHI MEMORIAL MUSEUM, AHMEDABAD (1958-63)

The Gandhi Memorial Museum was one of Charles Correa's first projects.

Figure 1.1

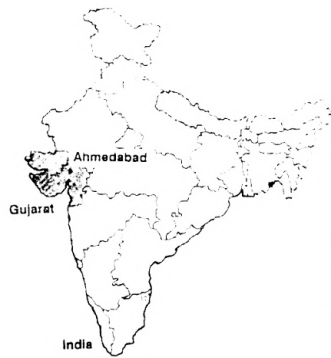


Figure 1.2

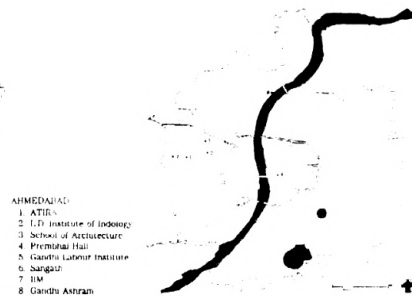
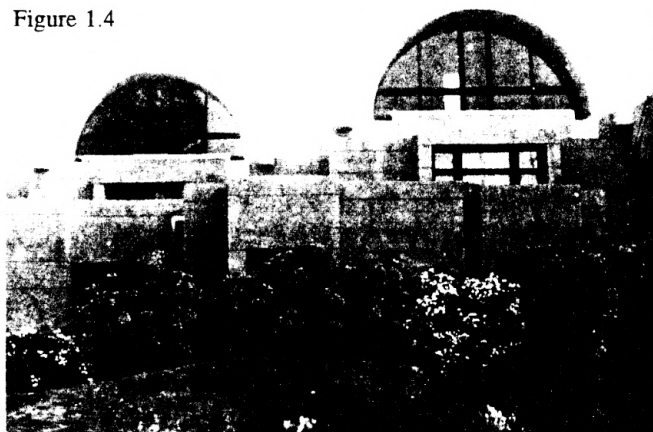


Figure 1.3



- 1.1. Map of India showing the state of Gujarat and Ahmedabad.
- 1.2. Map of Ahmedabad showing the premier institutions of the city.
- 1.3. A view of the entrance and the Gandhi Memorial Museum.
- 1.4. A view of the heavy massing, strongly marked windows and vaults at Gandhi Labor Institute.

Figure 1.4



Figures 1.1, and 1.2, are taken from Curtis William J.R. Balkrishna Doshi: An Architecture for India, N.Y. Rizzoli, 1988, pp. 48-49.

Completed in 1963, it drifted away from the mainstream of the international style and the kind of buildings built at the time in India (Figure 1.3). The design of the museum was also commissioned by one of the cultural trusts called Sabarmati Ashram Trust run by Gandhian disciples and scholars. This memorial museum houses archival material which include a treasure of letters, photographs, numerous art works on Gandhi and other documents which trace the history of the freedom movement of India launched by Gandhi. This collection by its very nature will increase over time and so the museum was conceived as a living structure which can grow in consonance with contributions made by each generation. The museum is built on the banks of the river Sabarmati and in the premises of the ashram where Mahatma Gandhi resided from 1971 to 1930 and from where he started his historic march to Dandi.

The materials used in the building are similar to those in other buildings in the ashram: tiled roofs, brick walls, stone floors and wooden doors. The only addition is the reinforced concrete channel which permits additional construction in future. These elements combine to form basic modules which forms the building. These modules structuring the building are composed of 6m by 6m square spaces, grouped in a casual meandering pattern creating a pathway along which the visitor progresses towards the central water court. The configuration of the modules is flexible and generates a wide spectrum of conditions from closed box, semi-open spaces to open to sky, the changes from one zone to the other being extremely subtle.

THE GANDHI LABOUR INSTITUTE, AHMEDBAD (1980-84)

This institute was designed by Balkrishna Doshi, who has gradually strived for an appropriate transformation of Le Corbusier's vocabulary and formulation of his own evocative style. His recent projects, Sangath (his office) in Ahmedabad, and Indian Institute of Management, Bangalore and Gandhi Labour Institute demonstrate this.

The Gandhi Labour Institute has been set up by the State Government to promote research in the field of labour studies and training labor and welfare officers. The building program called for the design of several seminar, discussion and teaching areas, a library, an exhibition space, an auditorium, offices and a dormitory block in addition to supporting facilities.

This complex is situated on a low-lying site along a major road located in the western suburbs of Ahmedabad. There are several research institutions in the vicinity. The peculiar shape of the plot has governed to a large extent the placement of blocks. The building is organised around three courtyards. The entrance court leads to the teaching and discussion areas. The main courtyard serves as a place for interaction between faculty and students while the third is generated by dormitories. An auditorium and an open air theatre are located at the rear of the site, with an exhibition gallery providing a link between the teaching and discussion areas on the first floor. Terraces at all levels and platforms form a design feature and allow the activities to extend out into the open.

The Gandhi Labor Institute has massive volumes, with strongly marked windows and white vaulting (Figure 1.4). The structure incorporates the use of R.C.C. beams, posts and slabs with ferro-concrete cavity vaults on the upper floors. The vaults are finished with a mosaic of waste glazed tile fragments. The ceilings are of exposed concrete and masonry infill is finished with cement plaster.

SOURCES FOR INTERPRETATION OF THE TWO BUILDINGS

The next question to address is the descriptive sources to be used in by integrating the two Indian buildings from Frampton's perspective of critical regionalism. These sources include published material as well as my own field studies done when I was an architecture student at School of Architecture, Ahmedabad. Specifically, my key sources and documentation are :

- i. Khan, Hassan-Uddin (Ed.). Charles Correa. New York : Concept Media Pte. Ltd, 1987.
- ii. Curtis William J.R. Balkrishna Doshi : An Architecture for India. New York: Rizzoli, 1988.

These two books provide the most important documented source for studying the two architects as well as their main projects. These books explore the background, the influences, the ideas and ideologies of the two architects, and their search for forms and appropriate vocabulary in the Indian context. The books chronicle the development of the two architects through various stages of their careers.

- iii. Gillion, Kenneth L. Ahmedabad : A Study in Indian Urban History. Berkeley: University of California Press, 1968.
- iv. Michell, George, Shah Snehal (Eds.). Ahmedabad. Bombay : Marg Publications, 1989.
- v. Nanda, Vivek. "Urban Morphology and the Concept of Type - A Thematic and Comparative Study of the Urban Tissue, Ahmedabad." Unpublished Thesis, Centre for Environmental Plannning and Technology, School of Architecture, Ahmedabad, India, 1988.

These three sources provide detailed information on the architecture of the city of Ahmedabad. They cover material identifying the schools of culture, thought and architecture prevailing in Ahmedabad from 1700 till the present. They also give information on the history of the city, region and the vernacular fabric which exists in the region.

- vi. Sharma, Sanjeev. Unpublished measured drawings of the Vernacular Villages in the Ahmedabad District, by Centre for Environmental Planning and Technology, School of Architecture, Ahmedabad, India, 1980-90.

These measured drawings comprise a detailed documentation (plans, sections, axonometrics and details) of the existing vernacular in the region especially in the outskirts of Ahmedabad, which were still villages about 10 years ago.

- vii. I have also used some articles by and about the architects as well as their

published interviews. These materials include:

- o Singh, Chander Uday in interview with Correa, "Reaching for the Sky," India Today, Delhi, 15 June 1984.
- o "A style for the Year 2001," Japan Architect/A+U, Tokyo, Summer 1985, pp. 84-85.
- o Aggarwal, Yogi, "Charles Correa: Seeking the Boundaries of a Vision," Bombay Magazine, Bombay, 22 April 6 May 1986.
- o "Space as a Resource," Ekistics, Greece, January 1976, pp. 63-70.
- o "Urban Strategies for the Third World: New Bombay," Spazio e Societa, No. 15/16, Milan, December 1981, pp. 44-55.
- o "Architecture in a Warm Climate," MIMAR, Architecture in Development, Vol. 5, Singapore, July-September 1982, pp. 31-35.
- o "Patterns of Urban growth," Architectural Design, Vol 34 London, December 1972.
- o Charles Correa. "A Place in the Sun," Places, Massachusetts, M.I.T. Press, Fall 1983, pp. 40-49.
- o "Regionality," A paper presented by Doshi at the World Design Conference in Tokyo, Japan, 1960.
- o "Ahmedabad - The Historic City," A paper submitted for the Encyclopedia of Architecture, Urban Planning - Harvard University, February, 1977.
- o Singh, Mina in interview with Doshi "Le Corbusier - My Guru," Inside Outside, Dec/Jan., 1988. p. 148-151.

- o "Between Notion and Reality," Reflection - Souvenir published in conjunction with 1987 IIA Convention, February, 1987.
- o Ahuja, Sarayu in interview with Doshi "A Rediscovery," Indian Architect, Vol. 1, No. 6, January, 1988. p. 4-11.
- o Kagal, Carmen in interview with Doshi, Vistara- The Architecture of India, Catalogue published by the Festival of India, October, 1986. p. 204-214.

These interviews and discussions offer a critique as well a viewpoint of the architects with respect to their ideas and design strategies for the region. These sources offer important insight into understanding the works of the two architects better. Besides these materials, I have used my own photographic documentation on the city of Ahmedabad and the two buildings to be studied for some of the evaluation. All the above sources form an important part of the material that I have used to examine each of the Frampton's axioms with respect to the two buildings.

Before the discussion of Frampton's axioms and a detailed discussion of critical regionalism which forms the crux of chapter 3, I must review in chapter 2, the relevant literature on regionalism and architecture. Then chapter 3 provides Frampton's axioms as they will be applied to the two Indian buildings.

CHAPTER 2:

VARIOUS APPROACHES TO REGIONALISM AND ARCHITECTURE

In the midst of so many interpretations, there cannot be any singular approach toward definition of a regional building that is stable and universal in terms of architectural expression. The causes behind this are the background of the place, the time in which a building is constructed and the technology available at the time. This chapter principally addresses the literature review on regionalism and architecture. It deals with the idea of the term regionalism and its origins in architecture. Besides it discusses William Curtis's idea of authentic regionalism who has also been a strong proponent of regionalism besides Frampton and addresses the issues in relation to the third world countries.¹⁰ The review is used as a background to present Kenneth Frampton's idea of critical regionalism whose axioms are dealt at length in Chapter 3.

Webster's dictionary defines "regional" as "of or relating to a geographical region."¹¹

Regionalism is defined as a consciousness and loyalty to a distinct sub-national or supra-

¹⁰ Curtis William J. R. "Towards an Authentic Regionalism", MIMAR, Architecture in Development, Vol. 19, January-March 1986. pp.24-30.

The expression 'The Third World' is used as defined by Charles Correa in his book The New Landscape where he rejects the 'miserable (and inaccurate) euphemisms'-- 'underdeveloped' and/ or 'developing'. 'The third world' was, to quote Correa, 'a phase coined in the 1950's by Nehru, Tito, Nasser and other leaders of the non-aligned movement, in order to define a third option, one different from Joseph Stalin's U.S.S.R and John Foster Dulles' U.S.A.'

¹¹ Babcock, Philip (Ed.). Webster's Third New International Dictionary of the English Language (Unabridged), Massachusetts: Merriam-Webster Inc. Publishers, Springfield, 1981.

national area usually characterized by a common culture, background or interests or the theory or practice of selecting a particular locale or region for subject matter and stressing the characteristic aspects in art or literature. It is a peculiarity that dominates or persists in a particular area.

Regionalism, as it can be applied to architecture, can be referred to a return to basics in architecture: e.g., a return to the primal and elemental. Rooted in cultural investigation, a search for regional architecture is also a social and responsive approach. It offers a hope for a responsible and eloquent architecture constantly reviewing itself in the service of society. The idea of regionalism and architecture could be exemplified in the confluence of landscape, weather, language, social customs and the ways of building and living - the manifestation of a concrete 'lived world' that mankind creates - a place - a culture. Regionalism reveres the making of place and aims to resurrect cultural vitality and expression in its built form.

PREMISE OF REGIONALISM

Regionalism does not merely extend the character of a place but also creates places. The modern movement sought to create a universal culture. The new 'machines set for living in' set in 'space, light and greenery' were to emancipate their inhabitants from the bonds with the past, and to cultivate new universality. The standardized building of today and the 'technological frenzy' as Heidegger calls it, accelerates estrangement and alienation

instead of integrating a world-view and a sense of self.¹²

The regionalist building would reflect T. S. Eliot's words, "The past (is) altered by the present as much as the present is directed by the past". It attempts for a conscious and intuitive blending of the traditional forms, space allocations and scale requirements of a region together with the history and the symbolic past in direct quotation, allusion or metaphor in conjunction with a modern approach, in terms of the use of techniques and materials.¹³ The main object is to obtain an expression particular to the location with an evocation of a strong sense of identity, in an architecture of continuity within change.

Architecture, even at its most eclectic periods, has always had integrity, so that the people looking on it, and the people inside could enjoy all spaces and forms. There were, for each place and time, strong socio-cultural agreements on the life-patterns of the people and how to make them take place in a 'place'. We desperately want to get back into the world of such an integrity, yet it stays elusive. "We keep looking for the philosopher's stone that will transmute the mundane to a built poetry that can unite us, of whatever background in homecoming."¹⁴ One of the most promising approaches to finding this is

¹² Heidegger, Martin. "Building, Dwelling, Thinking," in Poetry, Language, Thought, N.Y.: Harper Colophon, 1971. The essay first appeared in German in 1954.

¹³ England Richard discusses Eliot and Regionalism in "Regionalism: The Spirit of the Place", Transactions 9, Vol. 5, No. 1, The Record of the Papers presented to The Royal Institute of British Architects, London: RIBA Magazines Ltd., 1986. p. 87.

¹⁴ Abel Chris, "Regional Transformations", The Architectural Review, Vol. 180, No. 1077, November 1986. p. 37.

regionalism because architecture should grow out of a very deep understanding of local need and circumstance. However, in the present times, there is a conflict between, on the one hand, the general trend of universalization, and on the other hand, the desire for the conservation and partial continuity of indigenous cultures in most of the world including the third world countries.

REGIONALISM AND 'THIRD WORLD' COUNTRIES

The definition of regionalism is revealed in the global world of myth, literature, architecture and popular culture. Regions engendering this are found extensively all over the world. Because of the strong traditions and culture in the east and many third world countries including India a drastic change has not occurred in the wake of modernism and there is still a strong sense of region. But in future, because of the pressures of modernity and the rapid advancements in technology, a continuity in tradition, while maintaining a core of cultural identity is an extremely difficult proposition.

Regionalism therefore has a special meaning in relationship to third world countries. There is a rapidly increasing development in many of these countries including India. Because of this the urban development growth patterns are becoming more economy obsessed and speculative, and do not take into account the dialectics of traditions and culture of the place. Also most the modern programs, their size and complexity disallow the direct application of the traditional types. This has resulted in eclecticism and pastiche where architects very often nostalgically interpret a regional form. Besides, there is no

'post-modernist' or 'deconstructivist' architecture in these countries, and amidst a search for identity there is a strong viability of a regionalist architecture.

Many of these countries are also emerging from their colonial histories when their people were exposed to new languages, new cultures and new values. The post colonial period has seen an extension of the influence of the West through technological superiority. There is a search in the architecture of these countries for a cultural continuity. India too after three or four decades of independence is strongly beginning to reassess the past and the colonial influences in a search for a true regional expression. Indian architect Romi Khosla blames International Modernism for the loss of cultural continuity. He remarks, "All fundamental beliefs in Modernism were primarily based in the rejection of the old in every form. Now in architecture, there is a growing search for images which evoke familiar feelings. There is an effort to establish the line between the conscious and unconscious which Modernism has damaged."¹⁵

Regionalism is gaining momentum as an alternative to, and as a rejection of International Modernism.¹⁶ Regionalism could be seen as a critical and specific reaction to Modernism. However what has been rejected by most of the regionalist architects, including Correa

¹⁵ Khosla Romi, in Architecture and Identity, proceedings of Regional Seminar No. 1 (Robert Powell, Ed.) in Kuala Lumpur, 1983, Singapore: Concept Media Pte. Ltd., 1983.

¹⁶ Powell Robert (Ed.), in Regionalism in Architecture, proceedings of Regional Seminar No. 2 in Dhaka, 1985, Singapore: Concept Media Pte. Ltd., 1987.

and Doshi is Internationalism but not modernism because of its respect for inherent qualities of building qualities, expressive structures and functional justifications for built forms.

ORIGINS OF REGIONALISM

In 1979, in the book Transformations of Modern architecture, Arthur Drexler hinted about an important strain of thought in the works of Alvar Aalto, Richard Neutra and Marcel Breur.¹⁷ Sparked particularly in the writings of historians and theorists like Christian Norberg-Schulz, Kenneth Frampton and William Curtis, the notion of regionalism has been given a visibility.

Various architects such as Christopher Alexander, Jorn Utzon, Mario Botta, Robert Venturi, Tadao Ando, Louis Barragan, Charles Correa and Balkrishna Doshi have earned the admiration of the architectural press across the world for their regionalistic approach to architecture. As William Curtis writes, "There certainly is a mood gathering momentum which rejects the glib reproduction of international formulae and which seeks out continuities with local traditions."¹⁸

Long before regionalism gained prominence in Western Europe and America, Rifat

¹⁷ Drexler, Arthur. Transformations in Modern Architecture, New York: Museum of Modern Art, 1979.

¹⁸ Curtis William J. R., "Towards an Authentic Regionalism," MIMAR, Architecture in Development. Vol 19, January-March, 1986. p. 24.

Chadirji in Iraq, Aris Konstantinides in Greece, Geoffrey Bawa in Sri Lanka, Farraoqui and De Mazieres in Morroco and a handful of others attempted to create an expression of contemporary architecture, based on historical and traditional roots, which crystallized the potential of the region and connected buildings both to their physical and cultural backgrounds. Collectively they demonstrate the belief that the essential act of architecture is to understand the evocation of the particular place in which one is building.

Qualifying adjectives have been used to describe this concept. Whereas Kenneth Frampton uses the term 'Critical Regionalism', William Curtis uses the term 'Authentic Regionalism'. There is no single approach to Regionalism because it is a way of thinking about architecture and as Robert Powell describes "it has a taxonomy of strands."¹⁹ The most thorough general examination of Regionalism is done by Kenneth Frampton in his book, "Modern Architecture : A Critical History", where he draws attention toward a regionally inflected but critical form of modern architecture which has been in existence for the past forty years or more. He remarks that critical regionalism is a critical category rather than an identifiable artistic movement in the avant-gardist sense. He labels Regionalism as "a marginal practice which tends to flourish in those cultural interstices which in one way or the other are able to escape the optimising thrust of universal civilization."²⁰

¹⁹ Powell, Robert and Suha, Ozkan, "A Taxonomy of Regionalism" in Ken Yeang: Rethinking the Environmental Filter, Singapore: Landmark Books Pte. Ltd., 1989. pp.13

²⁰ Frampton, Kenneth. Modern Architecture : A Critical History, London: Thames and Hudson Ltd., 1985. p. 327.

There are many conflicting tendencies marking the regionalist architecture debate. Regionalism began on a geographical premise but rapidly assimilated a critique of the internationalist sub-theme of modernism. Regionalism is seen as a reaction to Modernism. The contradictory pressures on the architects of the developing countries come from a world situation completely dominated by 'Western ideas' and 'Western culture', both in architecture and architectural education. Regionalism is not an issue in Europe and North America for the reason that it is an issue in Asia and Africa. In an opposing view of the regionalist debate however some architects and critics voice a different opinion. Michael Sorkin argues that "In a global culture in which there no region, what is the authenticity of Regionalism."²¹ Paul Rudolph also disputes the idea of regionalism in architecture. He believes that regionalism is not a major determinant of architectural form, although it concedes to what he terms 'a certain dilution of formal ideas'. He also points out that technological innovation imposes some limits on Regionalism.²²

Regions dependent on historic models have a fairly easy time identifying a local mode of building and a language of the region, but when there are no historic models to fall back upon, a search must be undertaken to discover grounds of regional expression. Regionalist ideals, on the other hand are bound to vary and function quite differently in countries with weighty architectural heritages. Critic William Curtis has discussed the idea

²¹ Sorkin, Michael in Powell, Robert and Suha Ozkan, "A Taxonomy of Regionalism", Ken Yeang: Rethinking the Environmental Filter, Singapore: Landmark Books Pte. Ltd., 1989. p. 13.

²² Ibid.

of authentic regionalism addressing these third world countries with strong traditions and heritage.

AUTHENTIC REGIONALISM

Before discussing Kenneth Frampton's idea of "critical regionalism" and justification of the region and the two buildings however, I would briefly like to discuss William Curtis' ideas of "authentic regionalism" because Curtis has also been a strong proponent of regionalism. His concept of authentic regionalism originated around the same time as Frampton (1982), but his discussion of regionalism is mainly addressed to the third world and developing countries. Curtis believes, that at its best regionalist architecture is design in the built environment which "penetrates to the generating principles and symbolic substructures of the past, then transforms these forms that are right for the changing social order of the present. It is a matter of sensing beneath the surface, the memories, myths and aspirations that give society coherence and energy and then providing them with an authentic expression in architectural arrangement...".²³ Curtis sees regionalism as something for sustaining spiritual forces and tradition as a fixed set of images and devices.

According to Curtis, by its very definition regionalism in architecture is committed to finding unique responses to particular places, cultures and climates. He writes with a

²³ Curtis, William J. R., "Towards an Authentic Regionalism", MIMAR, Architecture in Development, Vol 19, January-March 1986, p. 24.

focus on the third world and eastern countries. Curtis remarks, "The new urban landscape is not uplifting and has a banal similarity from one place to another in the Third World - all the way from the glossy consumerist cliches at the rich end to the squatter settlements of the instant concrete and brick houses of the poor and the ex-poor respectively."²⁴ The bombardment of influences from alien cultures largely due to the power of media, printed and audio-visual just helps the architectural elites to imitate western styles.

Curtis asserts: "Authentic Regionalism tries to penetrate to what is of lasting worth in the present culture and in tradition; arbitrariness and superficiality are its enemies."²⁵ "At its worst it may degenerate into a skin deep instant history in which ersatz images are combined with pastiches of national cultural stereotypes."²⁶ He stresses on the use of tradition, types, local craftsmanship, response to climate in the transformation of spaces through light, space, materials and proportion, and thus making a building which fuses old and new, regional and universal, transcends styles and conventions. Curtis suggests that there is no set rule or guideline while reading the local tradition and so the regionalist sees the type, the general rule or the originating principles. The vernacular is one source which offers numerous lessons as far as dealing with climate is concerned. The fabric of the city on the other hand also teaches us many lessons in scale in handling open spaces and transitions.

²⁴ Curtis, William J. R., "Towards an Authentic Regionalism", MIMAR, Architecture in Development, Vol 19, January-March 1986. p. 25.

²⁵ Ibid.

²⁶ Ibid., p. 24.

He remarks, "Regionalism is not likely to appeal to the blatant technocrat ... Regionalist yearnings are especially appealing to the sensitive intellectuals who are troubled by the fragmentation that seems to come with the industrialization but who also wish to maintain the mobility, complexity of viewpoint and even wealth that industrialization affords."²⁷ Curtis suggests that the practice of regionalist architecture is difficult because it is appreciated by a particular clientele. It is for this reason that some of the most beautiful experiments are undertaken for the rich. Rich patrons have historically underwritten the creation of significant 'new' architecture, especially that which makes new connections with the 'past'.

CRITICAL REGIONALISM

After reviewing the several vantage points on regionalism, I now discuss Kenneth Frampton's idea of "critical regionalism." This thesis uses Frampton's axioms to formulate a theoretical and interpretive framework for examining the two buildings. Frampton has been among the principal proponents of regionalism since the last decade. The idea of 'critical regionalism' surfaces in the book "Modern Architecture: A Critical History," where Frampton draws attention toward a regionally inflected but critical form of modern architecture. This architecture has been in existence for the past forty years or more. Regionalism has emerged as one of the alternatives aiming at place-creation.

²⁷ Curtis, William J. R., "Towards an Authentic Regionalism", MIMAR, Architecture in Development, Vol 19, January-March 1986. p. 27.

However, it is extremely difficult to be a regionalist in an age when the world is moving towards an economic and technologically interdependent whole. This is more difficult when regions in terms of cultural, political and social sense are disintegrating and moving toward universalization. Frampton's concept of 'critical regionalism' has come about as a response to the problems posed by the global development. The idea of critical regionalism hinges around the concept of place-creation and self-consciously seeking to deconstruct universal modernism in terms of values and images which are locally cultivated, while at the same time 'critically' appropriating foreign influences at the level of both culture and civilization.

Frampton also discusses the idea of culture and civilization and its importance toward 'an architecture of resistance'.²⁸ In earlier times, there was a dialectic interplay between culture and the civilization. As a result of this there was an equilibrium between the urban fabric of the city and the culture. With the rapid advancement of technology the idea of universal civilization has taken over the local culture. Frampton takes his argument forward with the predicament posed by Ricoeur - "how to become modern and return to the sources."²⁹ In his argument for "critical regionalism" Frampton takes Ricoeur's thesis

²⁸ Frampton calls the critical regionalist architecture as "An Architecture of Resistance".

²⁹ Frampton cites Paul Ricoeur in his essay, "Towards a Critical Regionalism: Six points for an Architecture of Resistance", in Foster, Hal (Editor). The Anti-Aesthetic: Essays on Post-Modern Culture, Seattle, WA: Bay Press, 1983. p. 20. Paul Ricoeur, "Universal Civilization and National Cultures" (1961), History and Truth, trans. Chas A. Kelby (Evanston: Northwestern University Press, 1965, pp. 276-277.

that a hybrid world culture will only come into being through a cross fertilization between the rooted culture on one hand and the universal civilization on the other, as a starting point.

In the use of both the term and concept 'critical' Frampton is indebted to the tradition of the Frankfurt school of thought. According to this school, the conception of critical theory seems to be determined by whether the theory ensures the reproduction of the ideologies in dominance or whether on the contrary it subverts them.³⁰

The rise and fall of the avant-garde has become inseparable from the modernization of both the society and architecture. This has caused the arts to tend toward commodity and the architecture, toward scenography and pure technique. Frampton critiques architecture as either becoming subservient to technology or becoming subservient to the values of consumer society. Frampton remarks, "Architecture can only be sustained today as a critical practice if it assumes an *arriere-garde* position, that is to say, one which distances itself away from the Enlightenment myth of progress and from a reactionary and unrealistic impulse to the architectonic forms of the preindustrial past. A regression towards nostalgic historicism is to be avoided."³¹ His critical regionalism mediates the

³⁰. Frampton, Kenneth. "Appropos Ulm : Curriculum and Critical Theory", Oppositions, Vol. 3, New York: Institute of Architects and Urban Studies, May 1974.

³¹ Frampton cites Paul Ricoeur in his essay, "Towards a Critical Regionalism: Six points for an Architecture of Resistance", in Foster, Hal (Editor). The Anti-Aesthetic: Essays on Post-Modern Culture, Seattle, WA: Bay Press, 1983. p. 21.

impact of universal civilization with the elements derived indirectly from the peculiarities of a particular place. The critical self-consciousness he asks for may find its inspiration from the range and quality of the local light, or in a tectonic derived from the peculiar structural mode, or in the topography of a given site.

Critical Regionalism is a conceptual stance under which a work appears. Frampton remarks, "Under the current proliferation of highly individualistic forms of expression -- a body of work which is often cynical, patronizing and self indulgent rather than critical only a few firms today display any profound commitment the continued cultivation of regional culture."³² Frampton condemns the conversion of the urban environment into a landscape of commodity by the majority of the architects today. He suggests that since the salient cultural precept of critical regionalism is place creation, architects should adopt a model of making bounded fragments with their buildings in an effort to check placelessness.

As was mentioned earlier in chapter 1, Frampton's summarises his argument for an "architecture of resistance" and the idea of "critical regionalism" in the form of a speculative manifesto containing ten points or "axioms" listed earlier in table 1.1.³³ These

³² Frampton, Kenneth. "Modern Architecture and Critical Regionalism", Transactions 3, Royal Institute of British Architects, Vol. 2, No. 1, London: R.I.B.A. Magazines Pvt Ltd., 1982. p. 21

³³ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 20-27.

axioms form the starting point for my evaluation and critique of the two buildings. However, all the axioms are not used for the making of my theoretical framework because as mentioned earlier, some of the issues they raise are not relevant to my Indian context. I have condensed some of the axioms under one rubric because the ideas forming these axioms are interlinked. Chapter 3 discusses these six axioms as well as their choice against Frampton's original ten axioms.

CHAPTER 3:

AXIOMS FROM FRAMPTON TO BE TAKEN FOR THE EVALUATION OF THE TWO BUILDINGS

As was discussed in Chapters 2 and 3, Frampton's argument for an "architecture of resistance" and the idea of "critical regionalism" is proposed as a speculative manifesto, which is more of a conceptual proposal rather than a prescription for actual projects. He describes regionalism as a marginal and critical practice that offers a middle ground between modernism and post-modernism. The main aim of his argument is to open a series of issues which ask for a questioning attitude toward architecture. He suggests, "only through such questioning will we ever arrive at any kind of reliable "ground" upon which a significant, if marginal, practice of architecture might still be pursued."³⁴ In another article, "Ten Points on An Architecture of Regionalism: A Provisional Polemic," Frampton organizes his argument for "critical regionalism" around the ten points which are listed in table 3.1.³⁵

These ten axioms form the core to Frampton's argument of critical regionalism. These axioms are the starting point for my evaluation and critique of the two Indian buildings. However, all the axioms are not used for the making of my interpretive framework because some of their issues are not relevant to the Indian context. In addition, some of

³⁴ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 21.

³⁵ Ibid., pp. 20-27.

the axioms are condensed under one rubric because the ideas forming these axioms are interconnected. I must now explain these resulting six axioms in detail and explain how they are derived from Frampton's original ten axioms. The resulting six axioms that I will use to examine the two buildings are listed in table 3.2.

1. Critical Regionalism and Vernacular Form
2. The Modern Movement
3. The Myth and the Reality of the Region
4. Information and Experience
5. Space/Place
6. Typology/Topography
7. Architectonic/Scenographic
8. Artificial/Natural
9. Visual/Tactile
10. Post-Modernism and Regionalism: A Summation

Table 3.1: Frampton's original ten axioms.

1. Critical Regionalism and Vernacular Form
2. The Modern Movement
3. The Myth and the Reality of the Region
4. Culture vs Nature: Topography, Climate, Light and Tectonic Form
5. Visual Versus Tactile
6. Space Versus Place

Table 3.2: The six axioms from the original taken for evaluation.

JUSTIFYING THE SIX AXIOMS

When table 2 is compared with table 1, one notes that, first, I will not consider the fourth axiom, "Information and Experience", because it is not centrally applicable to the Indian

situation. In this axiom Frampton argues that the popular media are double edged and from the point of achieving a sensitive critical practice, often work as a negative influence. Frampton speaks of the totally fictitious representations of genius loci as created by television, which has become the principal medium in the West. He says that the distinction between information and experience is therefore crucial. Because of the conditioning done by the media, we read of buildings as pretty images rather than experiencing them fully in a multisensory way. A direct experience of the building makes the difference because it is capable of opening us to a direct experience of the corporal form as against an image.³⁶

Fortunately, as far as Indian architecture is concerned, the mass media have not gained as prominent a stature as compared to the developed nations in the west. Therefore, I feel that the influence of the media is not an important criterion for the evaluation of the two buildings. The effect of media and the modernistic intervention on the architectural and the urban milieu has in the western sense been the deterioration of a social and academic ideal to the purely economic and speculative one. The chaos is offset by the dynamic continuum at the socio cultural level. Modernity as depicted in the media in urban India has sustained an exuberance essentially due to the socio matrix of the context which

³⁶ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 24.

continues to support traditional values, belief patterns and contentions.³⁷ Experience and traditions still form an essential part of the common man and the architects.

Second, I will not consider the tenth axiom, "Post- modernism and Regionalism: A Summation," because in this axiom Frampton essentially summarizes his argument for the need of critical regionalism today. He talks about the two lobbies of post-modernism -- the neo-historicists and neo-Avant-Gardists. Much of the argument in this axiom is covered in Frampton's second axiom, which deals with the "Modern Movement." Besides, there is no identifiable post-modernist movement in India. The conclusion of my thesis will cover the intent of this axiom with the help of the critique of the two buildings.

In addition to my not considering axioms 4 and 10 there are also 6, 7, and 8, which I will collapse into one axiom because their ideas are interdependent and similar. The study of openings, local light and climate and topography are interlinked and could be examined more precisely by placing them under one rubric, which I call "Culture vs Nature: Topography, Climate, Light and Tectonic Form," a heading that Frampton provides in one of his other articles, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance."³⁸ As already pointed out above, the result of these changes leads to the six

³⁷ Nanda, Vivek. "Urbanism, Tradition and Continuity in Ahmedabad," MIMAR, Architecture in Development. Vol 38, March 1991.

³⁸ Frampton, Kenneth. "Towards a Critical Regionalism: Six points for an Architecture of Resistance", in Foster, Hal (Editor). The Anti-Aesthetic: Essays on Post-Modern Culture, Seattle, WA: Bay Press, 1983. p. 26.

axioms listed in table 2.

THE RESULTING SIX AXIOMS

Frampton remarks, "From the point of view of critical theory, we have to regard regional culture not as something given or something immutable but as rather something which has, at least today, to be self consciously cultivated." He suggests that critical regionalism is a critical category oriented towards common features and attitudes which are best illustrated in regard to a particular context -- in the present case, in regard to the Indian condition which I am studying. The six axioms that I have drawn from the original ten axioms explain the principal theme for an evaluation of a regional response in my context. The intention is to analyze the two buildings by allowing an ordered discussion of the axioms as a way to consider the design decisions and intuitive processes which underlay the design process.

1. Critical Regionalism and Vernacular Form.

In his first axiom, Frampton asserts that regionalism should not be sentimentally identified with the vernacular. A nostalgic return to vernacular often leads to kitsch. Vernacular should be used as a tool to take lessons in terms of its responses to the topography, climate and culture. Besides it also suggests an appropriate response to the use of the local materials and the craftsmanship available in the area. Frampton suggests the use of interpretive elements from the vernacular which are suited to the present times, program and context. He sees regionalism as a self-conscious, critical response on the part of the

architect offering a design solution in a region.

Frampton writes, "While opposed to the sentimental evaluation of the local vernacular, Critical Regionalism will, on occasion, insert reinterpreted vernacular elements as disjunctive episodes within the whole. It will moreover derive such elements from foreign sources. In other words it will endeavor to cultivate a contemporary place-oriented culture without becoming unduly hermetic, either at the level of formal reference or at the level of technology."³⁹ He claims that the idea of critical regionalism lies beyond style. The idea of the interpretation of the context also becomes important along with the conceptual difference in relation to the vernacular form.

How can this axiom be applied to the examination of the two Indian buildings? In India, many different stages of culture and technology exist side by side. The true vernacular is very much alive in the villages. I seek to establish if Correa and Doshi have drawn on images from the past as well as the vernacular existing in the region.

With regard to this axiom I make research efforts in the following chapters to identify the vernacular existing in the region and its association with climate culture, and craft through literature published on the region. Secondly I demonstrate how the case study buildings are different from the vernacular in the concretized manifest form, yet imbuing the spirit

³⁹ Frampton, Kenneth. Modern Architecture: A Critical History, London: Thames and Hudson Ltd., 1985. p. 327.

of the region. This is done with examination of the elements making up the building in the conceptual and the formal sense through discourse and graphic analysis. Through the examination of the documented studies on the vernacular in this region the main formal elements of the building are compared against the ones found in the vernacular. A study of the building's contextual fit in regard to response to the existing site and surroundings, to the climate and geography is done.

The examination of the building's contextual fit helps me analyze the response to the place in which it is built. It also helps me form a critique of how the buildings compare as against the responses offered by the vernacular in the same region. It also helps me understand how the architects have interpreted tradition and responded to a given context. The materials used for the examination of this axiom were overviewed in Chapter 1.

2. The Modern Movement

According to Frampton's second axiom, regionalist work in today's world should be a point of departure from the heritage which the modernists have left us. Lessons derived from the critique of modern architecture should be imbibed in the regionalist's work. Critical regionalism seeks to offer a middle ground between pure technique, reductive functionalism and other tenets of the modern movement and the idea of populism associated with post-modernism. In India, the entry of the modernism occurred after the Independence primarily through the influence of Le Corbusier. The prime minister Nehru's invitation to Le Corbusier to design Chandigarh, the new state capital of Punjab

marked the beginning of the age of technology, urbanization and modernization when buildings were born and based in toto on Corbusian principles.

With respect to the second axiom, and my two Indian buildings I examine in the following chapters, the two architects' work executed in the region and their influences. This gives a clue as to the effect of the modern movement in the region where the two buildings are built. I also discuss the buildings with respect to the principal tenets of modernism seen in the region and identified by Frampton in the modern movement through discourse and graphic analysis. These tenets of Frampton include:⁴⁰

- i. Avant garde attitude, which according to Frampton, refers to breaking decisively with all past cultures and traditions, meanings and values. The avant garde saw themselves as a natural force which had no choice but to break away from history and tradition.⁴¹ In India too, with the design Corbusier's buildings the modern architects tried to break away from lessons of the past and embraced the modern style of building.
- ii. Functionalism, which refers to the credo that "form follows function," and how the form of the building should be a response to the functional needs form the theme of this tenet. With the modern Indian architects and the buildings, functionalism

⁴⁰ These tenets are drawn from Frampton, Kenneth. Modern Architecture: A Critical History, London: Thames and Hudson Ltd., 1985.

⁴¹ Frampton, Kenneth. "Avant-garde and Continuity", Modern Architecture and the Critical Present, Architectural Design Profile, N.Y. : St. Martin's Press, July-August, 1982.

too was one of the most important tenets which was inescapable with the advent and impact of modernism.

- iii. Socialist underpinnings, which refer to the idea that the modern architecture could serve the poor segment of the society with mass housing as a part of socialist reforms. In India, with the tremendous population growth, there was a migration of people seeking work in the metropolitan cities. This was seen in the modern movement when the need for a mass housing (squatter settlements or highrise buildings) which was affordable by the poor man set in.
- iv. Structural rationalism, which according to Frampton refers to the modernist assumption that construction and structure can be understood rationally. The emphasis is on the correct use of the materials, and constructional procedure which is articulated to arrive at a form. The response to this was not too strong in Indian modern architecture but as far as mass housing is concerned, an attempt was made to reduce the materials and the construction to the cheapest and minimum.
- v. Ideas about ornamentation, a tenet which emphasises the idea of the building to be devoid of ornamentation. All extraneous use of materials as well as symbolism was shunned in the design of the buildings. In India however, this tenet did not strongly surface because it did not find favour with the masses.
- vi. Use of technology and materials in the construction, which is a tenet similar to structural rationalism and refers to the use of appropriate technology and materials in the construction.

My sources for examining this axiom in the following chapter are the literature on the modern movement as well as the central ones. By examining these ideas I seek to show how the buildings, either adhere or differ in principle with these tenets. This analysis also helps me to form a critique of the buildings as regional form and as a rear guard action against modernism.

3. The Myth and the Reality of the Region

In his third axiom, Frampton emphasizes that the limits of the region and its reality are critical questions essential to the expressivity and the constitution of the local form. The idea of a region is considered from an institutional standpoint, especially the idea of belonging to a school of thought, architecture and a typical local culture. Talking about the need and the idea of a 'school' he remarks, "this idea returns us to the critical importance of the architectural school as a pedagogical and cultural institution."⁴²

Discussing the idea of a critical region, Frampton suggests the concept refers to an area which has common cultural bindings in terms of the language, social customs, lifestyle etc. The second idea, which he discusses with regard to this axiom is the importance of a client committed to regional principles because without the committed client it would be really difficult to achieve a culturally significant work. All significant regionalist works reflecting the culture and the tradition of a region have been commissioned by a

⁴² Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 24.

conscious clientele having a particular set of aesthetic preferences. The main theme in this point is the understanding of the limits of the region and its institutional status without being restrictive to just the locality and the climate of the place.

With respect to this axiom, I investigate in Chapter 5, the existence of a regionalist school of architecture and culture in the region where the two Indian buildings have been built. This is done through literature review as well as graphic analysis and it will give me an idea about the probing the limits and myths related with the region. The idea of a committed client, and his involvement with the project and the ideology of the architect with respect to the region in the project has also been examined.

The published interviews and articles relating the two architects and their buildings are used in regard to this axiom. These materials listed earlier are also used for examination of the idea of a school of culture, school of thought and architecture being important to a regionalist built form.

4. Culture Versus Nature: Topography, Climate, Light and Tectonic Form

In this axiom, Frampton stresses that architecture needs to have a more direct and interactive relationship with nature, which not only includes topography and the site but all the other elements like light and climate as compared to other art forms. The first important point in regard to this axiom is the relationship of a building with its site and its topography. Topography here could be defined as the configuration of the surface of

the site including the physical and natural features. A proper response to topography is therefore an essential factor for a building to be critically regional. Here Frampton criticizes the bulldozing of an irregular topography into a flat site for rationalization of construction, which he attributes to modern culture, as the main cause for a condition of placelessness. He terms terracing the same site to receive the stepped form of a building as an act of "cultivating the site".

The second important point in the discussion of the axiom is the response to contingencies of climate and qualities of local light. Frampton writes "...the sensitive modulation and incorporation of such factors must almost by definition be fundamentally opposed to the optimum use of universal technique".⁴³ This is most clear in the case of light and climate control. The window is the point where these two natural forces are at play. Frampton remarks, "...the fixed window and the remote controlled air-conditioning system is indicative of the domination by universal technique."⁴⁴ He also explains that, "Critical Regionalism tends to treat all openings as delicate transitional zones with a capacity to respond to the specific conditions imposed by the site, the climate and light."⁴⁵ An examination of the fenestrations therefore expresses the response to the climate and light and determines the character of the building and the region.

⁴³ Frampton, Kenneth. "Towards a Critical Regionalism: Six points for an Architecture of Resistance", in Foster, Hal (Editor). The Anti-Aesthetic: Essays on Post-Modern Culture, Seattle, WA: Bay Press, 1983. p. 26.

⁴⁴ Ibid. p. 27.

⁴⁵ Frampton, Kenneth. Modern Architecture : A Critical History, Thames and Hudson Ltd., London, 1985. p. 327.

The third important point for discussion in regard to this axiom is the importance of tectonic form. The dictionary meaning of the term tectonic is "pertaining to building or construction in general" but Frampton in his discussion relates it to the poetics of the construction in addition to the structural component of construction.⁴⁶ He discusses the building's need to be expressive and architectonic, representing a structural poetic raised to an art form rather than a mere imagistic representation of a facade.

With regard to this fourth axiom, I examine in Chapter 5, the response of the two buildings and the design decisions because of the topography of their sites. In addition to this, a study of the openings as a response to climate and light is done. Light as well as the materials used in the two buildings have also been examined as an ordering principle, articulator of the surface and form and a contributor to the tectonics. A study of the intent of the designer with respect to the nature is also done as identified in Frampton's argument. All the ideas are examined through discourse as well as graphic analysis. This is done with the help of my own experience, personal photographic documentation, published interviews with the architects as well as the central sources.

5. Visual Versus Tactile

In this axiom, Frampton suggests that there are aspects of architecture in which a building is open to levels of perception other than the visual: "Architecture possesses a marked

⁴⁶ Frampton discusses the idea of the tectonic in detail in "Rappel à l'Ordre: The Case for the Tectonic" in Quantrill Malcolm, Webb, Bruce (Editors), Constancy and Change in Architecture, Texas: Texas A & M University Press, 1991. p. 5.

capacity for being experienced by the sensorium."⁴⁷ Materials and surfaces can be as much a part of the overall perception of architecture as the presence of visual form. The importance of the tactile can only be felt through experience and cannot be reduced to representation.

A tactile dimension in the built form also suggests a potential strategy for resisting the domination of universal technology. Factors affecting our experience of a space include air-movement, acoustics, ambient temperature and smell all affect the experience of a space. The tactile experiences form an integral part of the design of any building. Frampton suggests that there should be an equal stress on the balance between both the poles, the critique of the visual in terms of the tactile and the vice-versa in an attempt to complement on our normative visual experience.

With respect to this axiom, I study in Chapter 5, the elements and design strategies used in the two Indian buildings to increase the experiential aspect in addition to the regional response. I use my own experience with the two buildings here to illustrate some of the important experiential aspects in the building. I also use my personal experience to examine the aspect of surface articulation of the form for a visual critique through a study of mass, texture, pattern and materials used with respect to the two buildings. The ideas in this axiom are examined through discourse as well as graphic analysis. My sources for

⁴⁷ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 27.

examining this axiom have also been some of my own experience with the building, photographic documentation, as well as the central sources listed above. The concept of the environment where the body as a whole is seen as being essential to the architectural experience is essentially elucidated through this analysis.

6. Space Versus Place

In regard to this axiom, Frampton remarks, "Critical Regionalism manifests itself as a consciously bounded architecture, one, which rather than emphasizing the building as a free standing object places the stress on the territory to be established by the structure erected on the site."⁴⁸ He takes the base of the formulation of space/place concept, formulated by Martin Heidegger in his essay "Building, Dwelling, Thinking."⁴⁹ In this essay, Heidegger argues that the regularly subdivided theoretically infinite space is (in Latin, *spatium in extensio*) opposed to the concept of *Raum* as a phenomenologically bounded clearing or domain. For Heidegger the boundary is not a line or something, which stops but rather the contour within which something begins its 'presencing'. The condition of dwelling and ultimately of 'being' takes place only in the domain that is clearly bounded.

The term 'place' denotes a series of environmental levels ranging from the region to the

⁴⁸ Frampton, Kenneth. Modern Architecture : A Critical History, London : Thames and Hudson Ltd., 1985. p. 327.

⁴⁹ Heidegger, Martin. "Building, Dwelling, Thinking," in Poetry, Language, Thought, N.Y.: Harper Colophon, 1971, p. 154. The essay first appeared in German in 1954.

village to a house and even an interior. All these "places" begin their presencing from their boundaries unlike a space, which is an unbounded domain. 'Presencing' by principle implies particular relationships with the ground and sky.⁵⁰ The distinctive quality of a place is enclosure, and its character and spatial properties are determined by its nature of enclosure. Enclosure implies a distinct area, which is separated from the surroundings by means of a built boundary which could be continuous or inferred rather than positively present.

Both architects use design elements to transform their building spaces into bounded domains and create a sense of a place. Thus, with respect to this axiom I have tried to interpret the transformation of the space in the two buildings into a place with the analysis of the elements of spatial delineation used in the design of the two buildings. I have used discourse as well as detailed graphic spatial analysis to explain the making of bounded domains with an emphasis on:

- o Space defining elements and the property of enclosure;
- o System and organization of spaces;
- o Spatial relationships between spaces;
- o Spatial organization (centralized, linear, radial, clustered or grid used in the spatial organization to elucidate the idea of the centre, paths and domain).

⁵⁰. Norberg-Schulz too explains Heidegger's idea of 'presencing' and its relationship to place making at in detail in Norberg-Schulz, Christian. Genius Loci; Towards A Phenomenology of Architecture, N.Y. : Rizzoli, 1984. p. 58

I use the following sub-themes in Chapter 6, to structure my spatial analysis and discuss place-making in the buildings.

- o Idea of circulation in the spaces;
- o The study of the building approach;
- o The building entrance;
- o Configuration of the path;
- o Path and space relationships;
- o Form of the circulation space;
- o Formal articulation of the space;

Here, I also try to show how the existential attributes of the boundaries, floor, walls, and roof help in the making of bounded domains. (i.e. how the building meets the sky and the earth). I have also analyzed some special design elements used in the building to give the complexes a sense of place. (use of water, vegetation, semi-open spaces etc.)

My sources for the analysis and interpretation in regard to axiom 6 has also been my own documentation on the building, and the central sources discussed above. The analysis with respect to the criteria used to study this axiom helps to establish the importance of place making as one of the most important aspects in a good regional built form.

THE NEXT CHAPTERS

The next three chapters (Chapters 4, 5, 6) analyse the two Indian buildings using the six

above axioms. The analytical study of the buildings is done in the form of discourse and observation of salient features of the buildings with graphic material. A parallel graphic study along with the text is comprised of diagrams, sketches, drawings and photographs illustrating the ideas found in the axioms.

CHAPTER 4:

CRITICAL REGIONALISM; VERNACULAR FORM AND MODERN ARCHITECTURE

As was discussed in Chapter 3, six axioms form the core to Frampton's argument for critical regionalism with regard to my Indian context and the analysis of the two Indian buildings by Correa and Doshi. These axioms are discussed in the subsequent chapters (Chapters 4, 5, 6) according to the order in which they are listed in table 2. The first axiom discusses vernacular issues, because at first impression, critical regionalism is often associated with folk and indigenous themes. But as Frampton's first axiom suggests, an unsuitable direction is a rear-guard action against modernism and any nostalgic link or identity with vernacular traditions. This possibility of a rear-guard action leads to the discussion of the second axiom, which discusses regionalism and the modern movement. This chapter examines the two buildings, their region, and the local context with regard to these axioms.

AXIOM 1: CRITICAL REGIONALISM AND VERNACULAR FORM

As regards this axiom, Frampton asserts that regionalism should not be sentimentally identified with the vernacular. He sees regionalism as a self-conscious, critical response on the part of the architect designing a building in a particular region. The idea of the architect's attitude in regard to the building's relation to the context also becomes important, along with the conceptual difference in relation to vernacular and contemporary forms. Since a vernacular tradition has been handed down from one generation to the

next, Frampton remarks, "vernacular lies beyond any kind of evaluation in terms of bourgeois aesthetics."⁵¹

In regard to India's many vernaculars, the topography of the country has shaped and molded her myriad cultures and regions. The diverse differences between the climate and natural surrounds throughout the country have created a rich diversity not only among the various regions but amid a particular region as well. In India, many different stages of culture and technology exist side by side. Craft and mechanization come together in a way that is really unique. The true vernacular is very much alive in the villages and the cities.⁵²

To apply this axiom to the two Indian buildings by Correa and Doshi, one needs to identify the traditional vernacular of the city Ahmedabad, the capital of the region Gujarat. I then seek to demonstrate how the buildings are different from the vernacular in the concretized manifest form, yet imbibing the spirit of the region. I also examine the two buildings' fit in the context along with a study of the response to the existing fabric, climate and geography of the place. The method used here is my personal experience with the building, documentation of the vernacular, photographic documentation of the

⁵¹ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 22.

⁵² Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N. Y.: Rizzoli, 1988. p. 170.

buildings as well as references by the architects about the building, coupled with the critical commentaries made by the architectural critics.

The sections which follow make an effort to discuss the points raised earlier about vernacular and the idea of critical regionalism as studied in the two buildings. However, before the discussion of vernacular and its interpretation by the architects in the two buildings, I discuss the existing traditional dwelling as found in the vernacular of Ahmedabad.

TRADITIONAL VERNACULAR DWELLING OF GUJARAT

The vernacular architecture of Gujarat and, specifically, the city of Ahmedabad, evolved primarily as a response to the hot arid climate. The dwellings in medieval Ahmedabad originally evolved from timber construction. The day-to-day construction was of timber, brick and mud. When the need for a more permanent structure arose and stone was adopted, the craftsmen treated the structure like wood with which he was familiar. The trabeated method in the construction was maintained -- i.e. there was no attempt to enclose spaces by other systems. The two main elements that reveal the spirit of the dwelling in the existing vernacular were, the court and the facade. They establish the essential transitions -- one at the level of cosmic space and the other at the level of worldly communication -- one metaphysical and the other physical (Figure 4.1): "All the activities of traditional life beginning with production of simple tools and up to the actual organization of life needed to be organized and disciplined according to an eternal canon

Figure 4.1

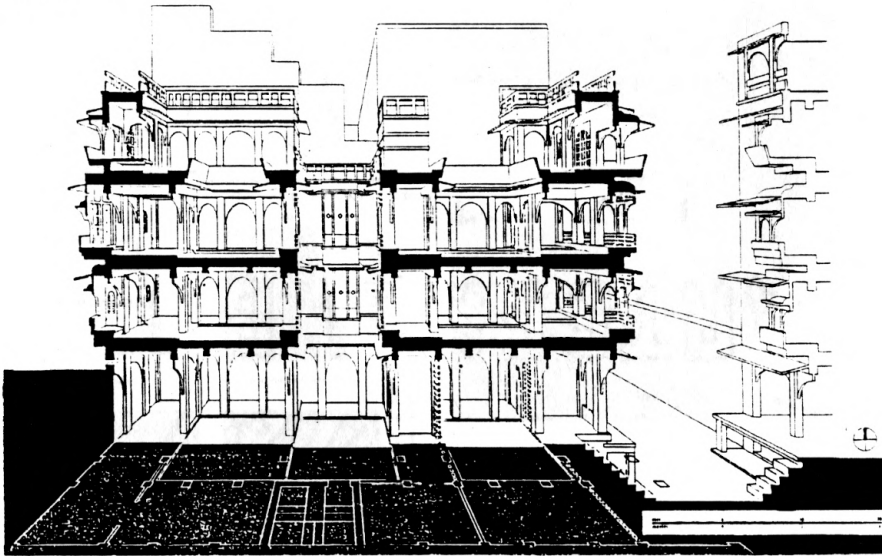


Figure 4.2



- 4.1 A typical section showing the organization of the traditional house form at Jaisalmer, Rajasthan and the two main elements: the court and the facade.
- 4.2 Morphology of the Pols: A layout of streets, lanes, clusters, courts and cul de sacs, Lakha Patel Ni Pol, Ahmedabad.

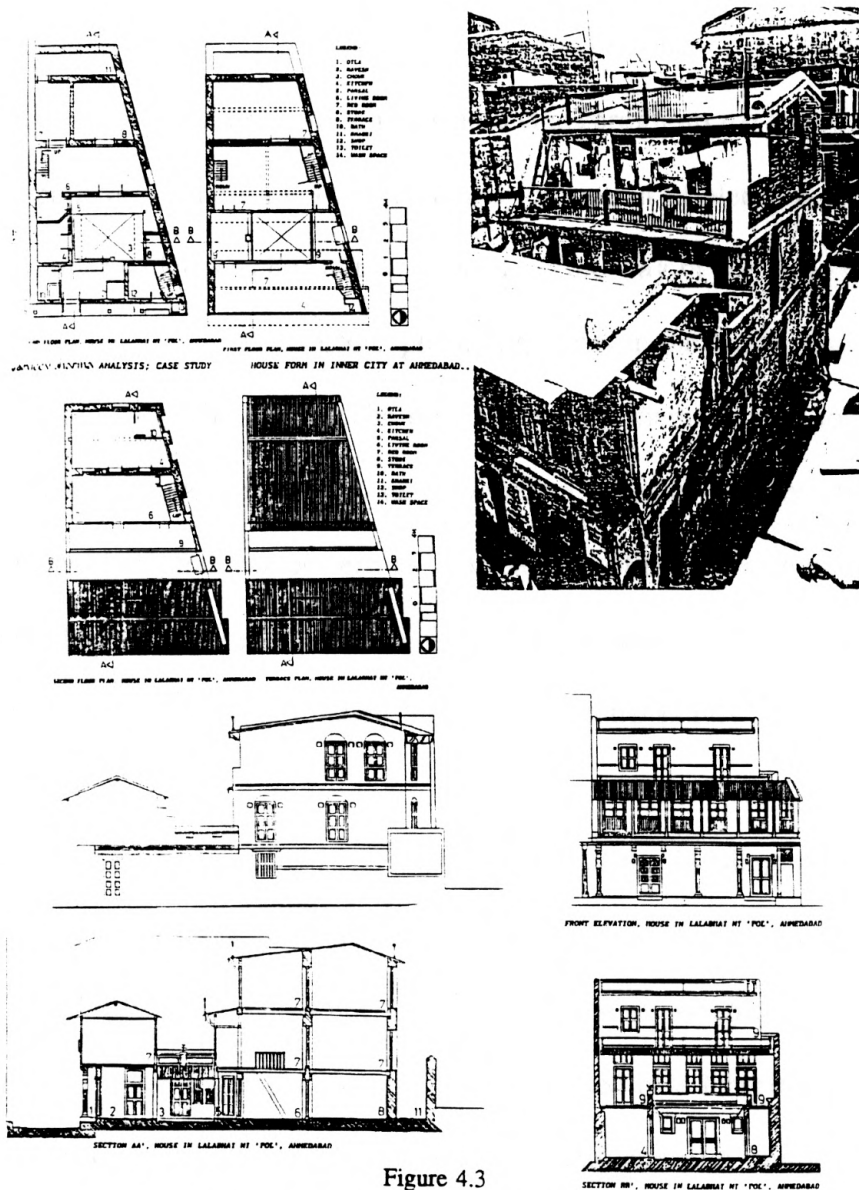


Figure 4.3

- 4.3 The hierarchal integration of the elements or parts in a built form. A case study of a traditional vernacular dwelling showing plans, sections, elevations and a view of a typical Pol house, Lalabhai NiPol, Ahmedabad.

such that bring out the essential co-relation between the operative principles of all forms and fields of experience."⁵³

The traditional vernacular dwelling presents an experience of an organized assembly of elements in sequential order which was graded according to the relationships inherent in generic pattern (Figure 4.2). The hierarchial integration of elements or parts in the built form an order which was a result of response to the way of life and aspects of living on a socio-cultural set-up. The various prevailing ideals in the Hindu dwelling ranged from the physical and spiritual ones. The principal among them was the source of creation is from a core (Bindu), which is said to be an infinite undifferentiated whole. The phenomena of creation can be seen as an expansion of this core. In between the core and the outer limits was the expanse of the dwelling which was subdivided into parts in relation with the hierarchic relationship of a traditional family.⁵⁴

The typical spatial components and characteristics of the dwellings and institutions in the western region of India were quite similar. There was an agglomeration of houses in cumulative clusters called the pol -- a neighborhood in which people of the same caste or profession lived together. The pols are comprised of a labyrinthine hierarchy of the main street, khanchas (lanes), delas (sub-community clusters), and khadkis (joint family

⁵³ Agnihotri, Preeti. Genesis of Architectural Form, Unpublished Thesis, Ahmedabad, India: School of Architecture, 1988.

⁵⁴ Ibid.

courts/cul-de-sacs)(Figure 4.3). In the pol, houses shared the common walls with the shorter side facing the width of the street. The houses were deep, giving much privacy along the main axis in addition to becoming climate modifiers. The rich families had a wider dwelling facade. The houses on the main pol were larger and quite often acquired by wealthier families. The facade treatment varied, highlighting the status of the occupant. The settlement pattern was usually additive in nature and the pol is a self contained and unified whole.⁵⁵

As shown in figures 4.3 and 4.4, the major spatial components of all types of dwellings as well as institutional typologies of Ahmedabad comprise the otla (front veranda), the khadki (the entrance room), the chowk (open-to-sky court), the parsals (semi-open galleries around the court) and the orando (innermost room). These common elements constituting the dwelling in the existing vernacular are briefly explained below.

1. Street facade : The street facade represents the most important aspect to the house form in terms of Frampton's axiom. Its elemental nature highlights the use of wood in its construction which made it lighter, ornate and visually striking. The facade of the house was worked in accordance with the sizes of the wooden members and on the street level formed a transition space which had columns and brackets supporting the upper facade. The other important elements in the formal composition were the entrance door

⁵⁵ Nanda, Vivek. Urban Morphology and the Concept of 'Type', A thematic and Comparative Study of the Urban Tissue, Unpublished Thesis, Ahmedabad: School of Architecture, 1989.

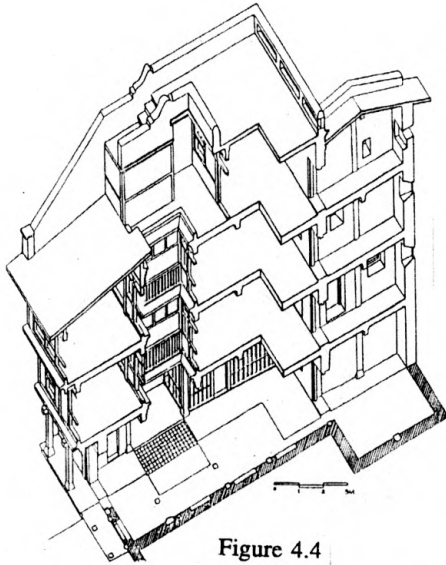


Figure 4.4



Figure 4.5



Figure 4.6



Figure 4.7

- 4.4 An axonometric showing the major spatial components of a Pol house, Mandvi Ni Pol, Ahmedabad.
- 4.5 Ornate column capital and brackets in the street facade of a Pol house, Ahmedabad.
- 4.6 The narrow width of a Pol street and ornate facades, Jaisalmer.
- 4.7 Elaborately carved ornate facade of a community institution in a Pol street, Ahmedabad.

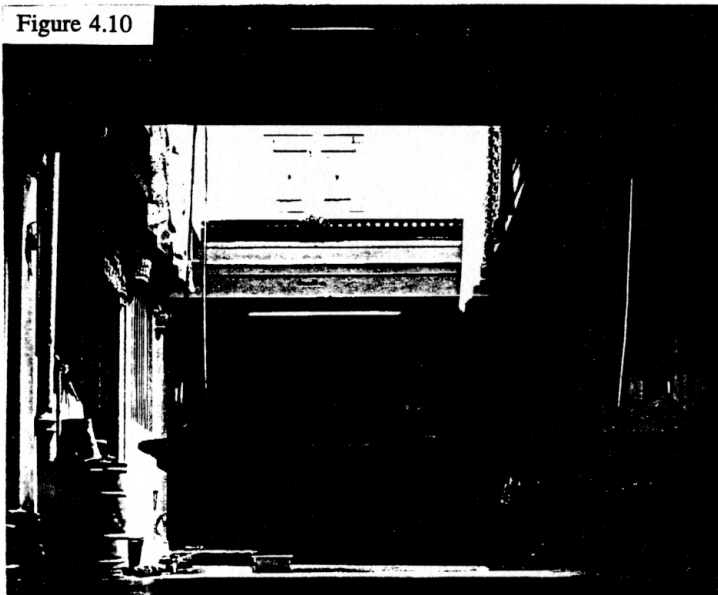


Figure 4.8



Figure 4.9

Figure 4.10



- 4.8 Independent structural columns of the two houses: junction showing the condition where the two ornate column capitals meet in traditional houses in a Pol street, Ahmedabad.
- 4.9 Raised plinth opening onto the street: a view of the otlas in traditional Pol houses, Ahmedabad.
- 4.10 A view of the court in a traditional Pol house, Ahmedabad.



Figure 4.11



Figure 4.12

4.11 The transitional semi open space by the side of the court in the traditional Pol house, Ahmedabad.

4.12 A view of the upper level terrace in a typical Pol house, Ahmedabad.

4.13 A view of the ornate facade and the otla in a rich person's Pol dwelling, Ahmedabad.



Figure 4.13

and the window frills with specific attitude to proportioning and placement (Figures 4.5, 4.6). These elements are important as the cultural identity and social status of the occupant because the larger dwellings of the rich and prominent members of the community were located on the main pol street. Sometimes the pols were named after them. If the building was public in nature e.g. a school or a community activities institution, the facade became more elaborate facade with larger and more ornate entrance doors (Figures 4.5, 4.13).⁵⁶

2. Otla : This was the raised plinth opening on to the street (4.6, 4.7, 4.13). It demarcates the boundary of the dwelling and helps in attaining privacy. It is used mainly for sitting and generates interaction with neighbors. It binds the units with the public realm and contributes to the spatial character of the street (Figure 4.10.). In case of an institution the otla took the form of an big entrance veranda with an elaborate plinth.

3. Chowk : The chowk, or the inner court, was the main spatial element of the dwelling. It is also linked with the cosmo-religious symbolism and in this respect is also the sacred center or ‘womb’ of the dwelling.⁵⁷ Most of the buildings have courts as their central space (Figures 4.4, 4.10). All the spaces and functions were organized around the court. Being the ritualistic and the organizational core, the use of the chowk changes according

⁵⁶ Patel, Mahesh. A Study of Old Havelis in Gujarat, Unpublished Thesis, Ahmedabad: School of Architecture, 1981.

⁵⁷ Nanda, Vivek. "Urbanism, Tradition and Continuity in Ahmedabad," MIMAR, Architecture in Development. Vol. 38, March 1991. pp. 30-31.

to the time of the day and seasons. In large buildings, the court was bigger with elaborate plinths and a colonnade. Very often trees were planted inside the courts. In some cases, there was a well or a fountain. Climatically, these elements in the court developed a microclimate comfortable for living and served as a light well or a ventilating shaft for the dwellings.

4. Parsal : This was the open and often colonnaded veranda space around the court and utilized for multifunctional areas during the day (Figures 4.4, 4.10, 4.11) It was a semi-open space and defined subtly with a level difference from the court. It also acted as a transitional zone between the chowk, private and the living areas. The living room space meant for visitors was located very often next to the parsal and was called Baithak/Khadki. Often it was different for men and the women.

5. Orado : This was the last room of the house from the street and the most private room (Figures 4.4, 4.11). The primary function of this room was essentially the storage of grains and vegetables in residences and other miscellaneous things in large institutional buildings, for example, appliances, utensils for community cooking, beds, mattresses and other items for community-related activities.

6. The upper levels : Usually staircases led to the spaces above which were more private. Privacy increased as one went deeper and higher from the street. The terraces were used for sleeping in case of the residences and for meetings in institutions (Figure 4.12).

Spaces in the traditional Indian dwellings were immensely flexible and did not involve specific functions. Some rooms of the institutional buildings often served as a place for lodging and night halt for the visitors to the city.

In Ahmedabad, wooden construction was preferred to stone masonry which was common in western India from the fourteenth century onward. Wooden construction, which was one of the oldest Indian building methods, offered flexibility and clarity in the conception of the houses. This was preferred to stone masonry when wood was easily available because it facilitated carving and embellishment. The entire structural system was trabeated, within the common area available between the masonry walls. The wooden skeleton had brick and lime masonry infill along the party walls as well as the partition walls of the orado. The other partition walls were out of timber. Despite the party walls, however the timber structural frames of the houses remained independent (Figure 4.8). All the facades were finished with wooden panels, which made the structure extremely light. (Figure 4.13) The roofs were usually hipped with timber purlins and clay tiles.⁵⁸

VERNACULAR OF THE NEIGHBORING REGION

I will later show that, in addition to adapting some basic elements from the vernacular of Ahmedabad, both Correa and Doshi also use lessons in terms of tradition, culture, climate, materials and craft from the diverse traditional culture and various neighboring

⁵⁸ Jain Kulbhushan, "Wooden Houses" in Shah, Snehal and Michell George (Ed.). Ahmedabad, Bombay: Marg Publications, 1988. pp. 156-159.

regions having a strong vernacular. There is a variation in terms of morphology of the built form even under the category of a hot dry region. However the general principle in the built form in addition to the socio-cultural factors remains an appropriate response to climate.

As in Gujarat, where the majority of the population was engaged in trade since ancient times, the people of Rajasthan (the neighboring state to the north of Gujarat) too were traders. However, in some western desert regions, people were nomads. The built form of the nomads reflected their life-style. These people used to live in huts, which were easily erected and often pavilion-like structures.

The architectural form in these regions was disaggregated into a series of separate but interdependent volumes. For example the houses of some villages in Banni, a typical desert village in Rajasthan consists of a series of huts focusing on a central courtyard (Figure 4.14). Each hut has a specialized function: one for visitors, another for storing grain, a third for sleeping and so on. One moves from one to the other depending on the time of the day, and the activity one is engaged in - a kind of nomadic pattern of living. The forms of the huts is pyramidical and the material used for these huts is bamboo, mud and sometimes brick. These patterns of disaggregated and free standing built form offer crucial advantages in terms of both light and air movement. They are born out of the cultures of warm climates where during the day one needs but minimal protection, such as a chatri or umbrella (Figure 4.18). In the early morning and at night the best place to

be is outdoors, under the open sky.⁵⁹

After having discussed the vernacular of the region and the neighboring region, the following sections try to address the response of Correa and Doshi's buildings to the site, climate and geography of the place as well as the interpretation of the vernacular discussed earlier.

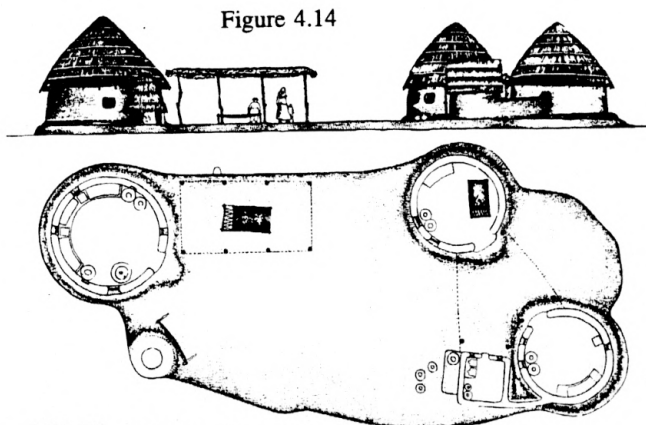
CORREA'S GANDHI MEMORIAL MUSEUM

Charles Correa's Gandhi Memorial Museum is built in the premises of the ashram where Mahatma Gandhi resided from 1917 to 1930.⁶⁰ It is on the west banks of the river Sabarmati, outside the fortified old city of Ahmedabad which is on the eastern banks (Figure 1.2) Before independence however the site of the ashram was a village called Sabarmati, named after the river. It was from this ashram that Gandhi left in 1930 to lead the famous Salt March, which initiated the second great round of national Satyagraha (non-violent resistance).

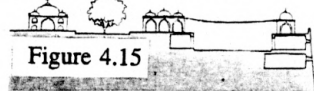
The museum building is surrounded by a few old houses and Mahatma Gandhi's old ashram (Figures 4.21, 4.22, 4.23, 4.24). The architectural vocabulary of the ashram is similar to the one described in the traditional vernacular dwelling earlier, except that all

⁵⁹ Correa, Charles, "Transfers and Transformations" in Khan, Hasan-Uddin (Ed.). Charles Correa, Singapore: Concept Media Pte. Ltd, 1987. pp. 166-175.

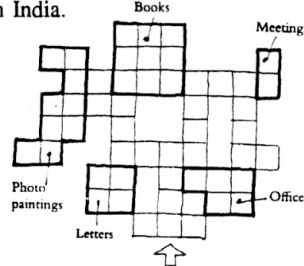
⁶⁰ Ashram is a Sanskrit word and finds common usage in many Indian languages. It means the hut or shelter of a saint.



4.14 Plan and elevation of the typical desert house form in Banni, a village in Rajasthan.



4.15 A conceptual section of the pavilions in the Mughal forts in India.



4.16 Disaggregation of the museums activities into units and linking them with a courtyard: conceptual sketch of Gandhi Memorial Museum.

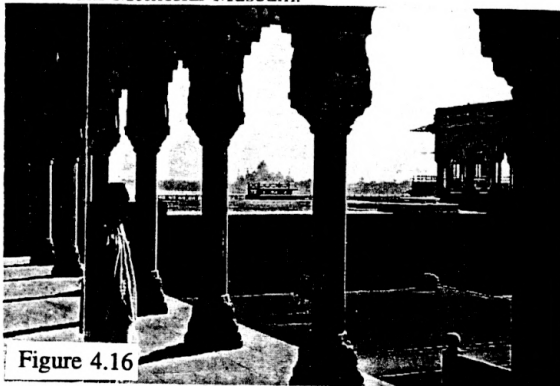


Figure 4.16

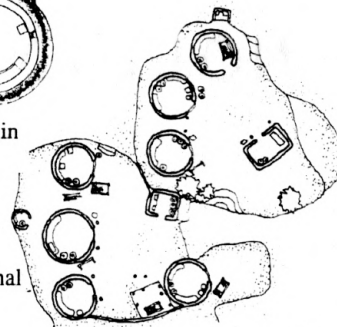


Figure 4.17

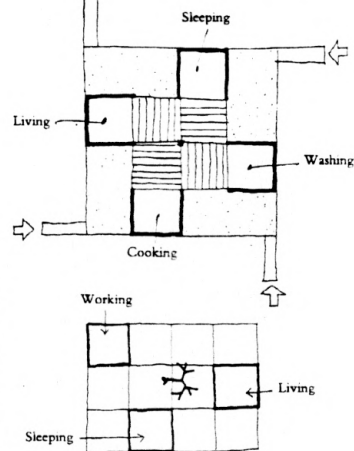


Figure 4.18

4.17 Transformation of the idea of the house forms in Banni by Correa into contemporary organization solutions in his projects.

4.18 A view of the pavilions at the Agra fort, Agra.

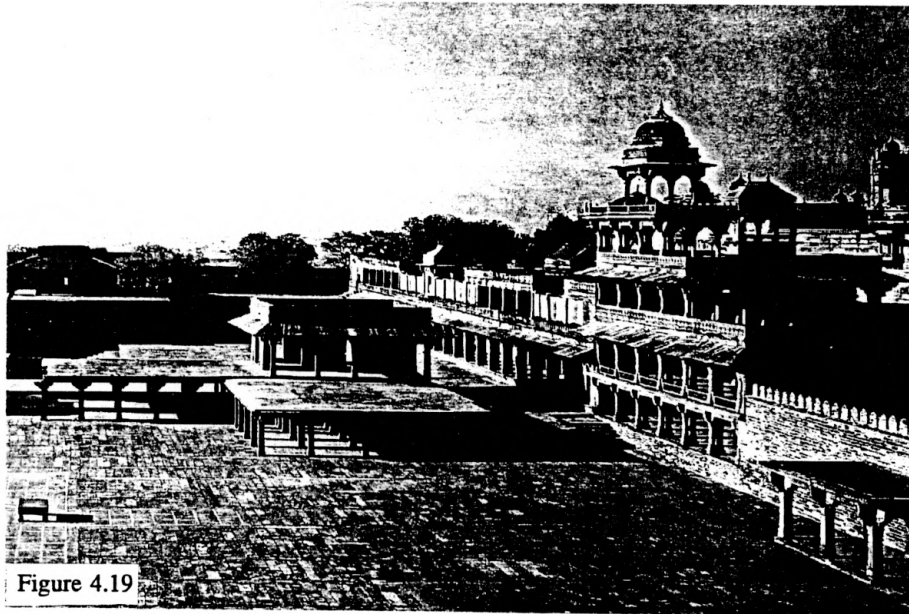


Figure 4.19

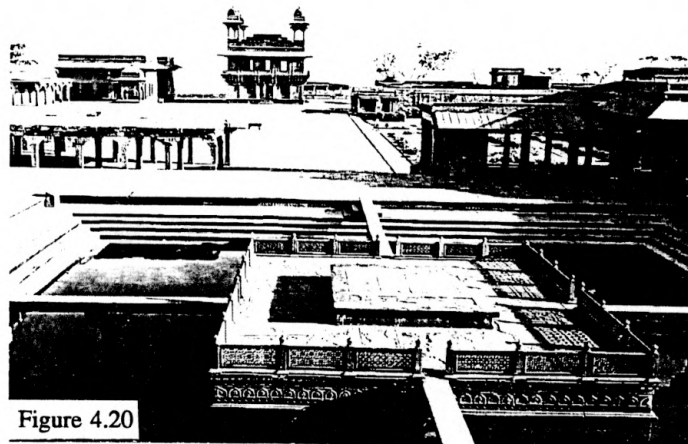


Figure 4.20

- 4.19 A view of the pavilions in Fatehpur Sikri.
 4.20 A view of the disaggregated pavilions and water channels, Fatehpur Sikri.



Figure 4.21



Figure 4.22



Figure 4.23



Figure 4.24

- 4.21 A simple hut in the Gandhi Ashram complex representative of the frugal and minimalist approach stressed by Mahatma Gandhi.
- 4.22 A view of the Gandhi Ashram.
- 4.23 A view from the colonnade in the Gandhi Ashram looking towards the river Sabarmati.
- 4.24 A view of the court and the ambulatory around the court, Gandhi Ashram, Ahmedabad.

the buildings in the complex are single-storeyed (Figure 4.21). The Gandhi ashram has a simple plan where the entire spatial system is organized around a court with rooms for meditation, study, kitchen and sleeping and an entrance court used for meetings (Figure 4.23, 4.24).

The building is simple and reflects the frugal and minimalist approach stressed by Mahatma Gandhi. It has other institutions where the freedom fighters used to stay and work at the time of the freedom movement in the vicinity of the ashram. The ashram is on the banks of river Sabarmati and has a backdrop of shady trees all around it (Figure 4.22). The other buildings in the complex are mostly single room dwellings, mostly used as temporary living places for the freedom fighters, who came to meet Gandhi.

The new memorial building designed in the context had to take into account all the subtleties of the existing fabric. When the design of the museum was commissioned the site was in the outskirts of a developing city. However in the present times the entire Ashram Complex is just like a green island in the middle of the sporadic speculative development that has taken place throughout the city.

The site of the memorial is on a flat land on the eastern bank of river Sabarmati. The river Sabarmati is dry for the entire year except one or two monsoon months. The main building of the memorial museum is between a major traffic artery and the river with a pedestrian path which leads it on to the river. The old Ashram is linked to the museum only by means of this path. When one arrives at the site, he or she notices the museum

first (Figure 4.21). After seeing the museum, going to the artifacts, numerous exhibits, paintings, and books associated with Gandhi and the freedom one takes the path to see the old building where Gandhi stayed during the freedom movement. This path further leads one to the river embankment on one side and cascading steps leading to the river (Figure 4.23).

There is very little effort by the building as far as a response to the river edge is concerned. The architect instead creates water bodies inside the museum building between the various modules to develop a microclimate. However, there is a large area which is landscaped with trees and sitting spaces along with a strongly defined embankment edge with respect to the river where a visitor can sit and look at the fortified old city across the river on the western bank (Figures 4.23, 4.25). This area was used for gatherings, morning prayers and meetings of the freedom fighters.

The museum is used as a foreground and preparation of the visitor for going to the old Gandhi ashram in the complex. It does not in any way try to relate to the old Ashram building except by preparing the visitor to see the rest of the complex. The old Gandhi Ashram is considered to be sacred by the Indians because of Gandhi's strong image (He is also called Mahatma or the saint and the Father of the nation). It is perhaps because of this reason that Correa did not strongly link his building visually with the old one, except with the use of landscape elements.

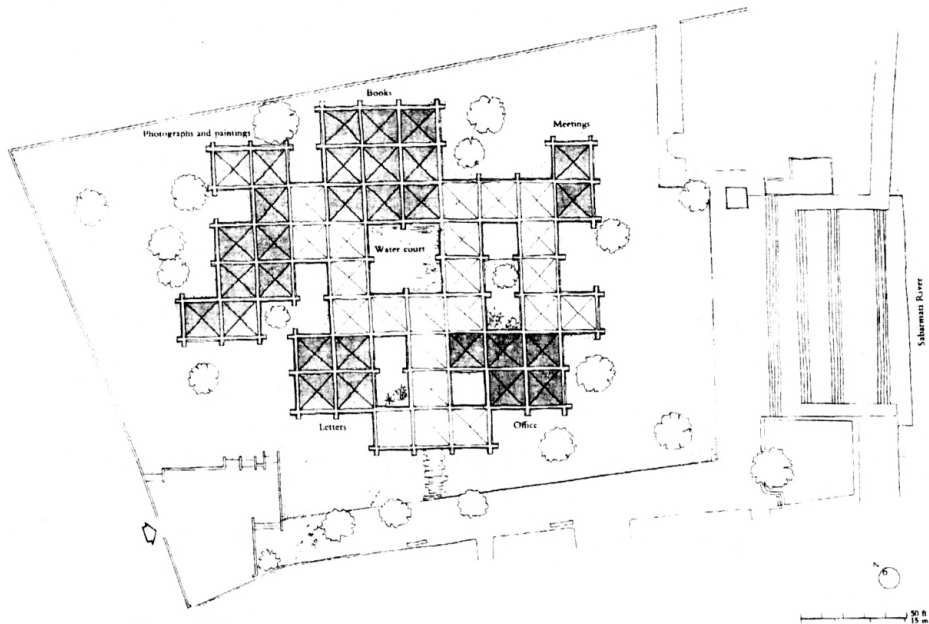


Figure 4.25

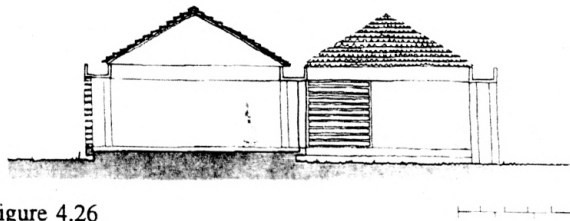


Figure 4.26

4.25 Roof Plan showing the organization of the modular units in the Gandhi Memorial Museum, Ahmedabad.

4.26 A section through the modules showing the different enclosure conditions in the Gandhi Memorial Museum.

Figures 4.25, and 4.26 are taken from Khan, Hassan-Uddin (Ed.). Charles Correa. New York : Concept Media Pte. Ltd, 1987 , pp. 22 .

Organization and Response to Climate and Materials

The units of the museum building are consciously grouped in an asymmetric manner to be analogous to the Indian village with its pathways and seemingly randomly placed buildings and meeting points--in this instance, the central water court (Figure 4.25). The typology of the organization of the museum is analogous to the villages, reminiscent to Gandhi's thinking. The building shows a sensitive response to the hot arid and dry climate of the region and the place. In his essay, "Transfers and Transformations," Correa remarks that in a warm climate people have a different relationship to built form. His response to the design of the museum is a series of disaggregated spaces, one for books, one for photographs, a third for letters and so forth (Figures 4.16, 4.17). Correa suggests that this allows for the future growth of the museum as well as generates movement patterns between the areas which emphasize the horizontal plane - making for an ambience of tranquility and meditation.⁶¹ He uses the lessons from the vernacular of the Banni Village huts which are disaggregated around a central courtyard (Figure 4.14, 4.17).

The configuration of the building generates a wide spectrum of conditions from closed box to the space open to the sky, the changes from one zone to the other being extremely subtle (Figure 4.26). In order to reflect on the simplicity of Gandhi's life and the incremental nature of a living institution, the architect used modular units of six meters by six meters of reinforced concrete connecting spaces, both open and covered, allowing for

⁶¹ Correa, Charles, "Transfers and Transformations" in Khan, Hasan-Uddin (Ed.). Charles Correa, Singapore: Concept Media Pte. Ltd., 1987. p. 166.

eventual expansion (Figure 4.25). The modular simplicity of the structure is conceived in the use of basic materials, brick walls, wooden doors and louvered windows devoid of glass, and tiled roofs. These materials are also similar to those in other buildings in the ashram including the old Gandhi Ashram (Figure 4.27, 4.28). The only addition is the reinforced concrete channel, which permits additional construction in future.

The individual formal unit is a pyramidal tiled roof supported on brick piers. Some units are omitted to form courtyards open to the sky; others with exhibits needing protection are enclosed in deep panels or louvers (Figures 4.26, 4.28). It is an architecture of deep recession and extreme contrasts of light and shade. The brick construction and the sloped pyramidal roofs also provide a good climatic response as far as creation of a microclimate inside the museum is concerned. The cool air emanating from the water-courts in the museum passes over the polished stone flooring. It generates a cool, soothing ambience inside the entire museum building in the otherwise hot dry climate. The discrete changes in the level of the open to sky spaces and the corridors, the accommodation of the sitting positions in proximity to the cold mass of the floor in the hot and dry weather also highlights the architect's response to climate.

Talking about design for a warm climate, Correa remarks, "One steps out of the 'box' to find oneself...in the veranda, from which one moves into a courtyard, and then under a tree, and beyond onto a terrace covered by a bamboo pergola, and then perhaps back into

a room and out onto a balcony...and so forth.⁶² These kind of spaces are present in this museum. The courtyards of the building are the nodes around the various activities of the museum are split. The semi-open corridors flanking the courts have articulated plinths as well as seating spaces for the visitor to sit and look at stones and water bodies (Figure 5.15, 5.16). The expansive corridors also serve as pause and reminiscing spaces before going into the different wings of the modular arrangement having various exhibits.

Correa's Museum and the Vernacular

When one looks at the way the Gandhi Ashram is organized in terms of the various spaces, one can readily associate the arrangement with the layout of a typical Indian village. The disposition of the sloping roofs and the emphasis on the horizontal scale evokes the rustic image in Correa's building (Figure 4.28). The materials used in the construction are modern yet used in such a way that they could be identified when one looks at the traditional vernacular dwelling of the city. The extensive planting of trees and the seating spaces around the entire complex, is an interpretation of the informal gathering spaces found in the villages. The unfinished materials and stones used in the paving also shows another interpretation of the paths and streets found inside the pols in the inner city. The overall ambience of the entire complex is so similar to an Indian village that, critiquing Correa and the design of Gandhi Ashram, Frampton remarks, "The appearance

⁶² Correa, Charles. "Open to sky space: Architecture in a Warm Climate", MIMAR, Architecture in Development, Vol. 5, July-September, 1982, p. 31.



Figure 4.27

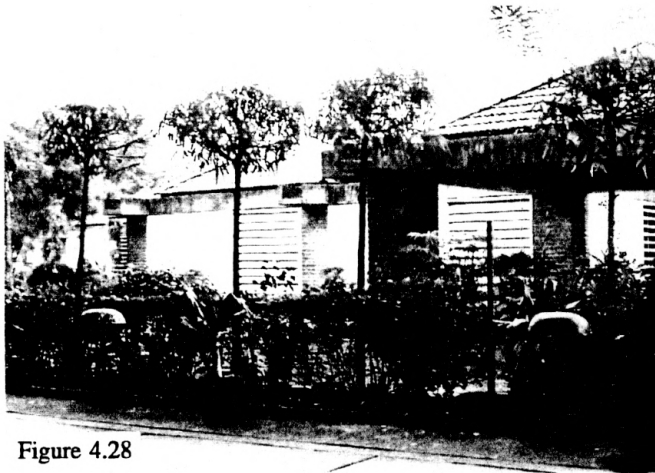


Figure 4.28

- 4.27 A view of one of the community buildings in the Gandhi Ashram complex, Ahmedabad.
- 4.28 Interpretation of the vernacular in the Gandhi Ashram complex imbibed in the design of the Gandhi Memorial Museum.

of cattle in its formal courtyards could hardly engender surprise."⁶³

Correa also draws inspiration from the Fatehpur Sikri, the enlightened Mughal city founded by Akbar in north India in the fourteenth century.⁶⁴ The great forts in Agra as well as Delhi had clusters of disaggregated pavilions (Figures 4.19, 4.20). The lower levels in the fort were used for defense, stores, and so forth while the upper terraces had an elegant pattern of free-standing pavilions placed in gardens, inlaid with fountains, canals and running water. These pavilions were differentiated for various uses. The sunken courtyards gave access for the lower level of rooms. In the early morning of the summer months, a velvet shamiana (canopy) was stretched over the rim of the courtyards trapping the cold overnight air in the lower level of the rooms (Figure 4.15). This is where the Moghul emperor spent his day. In the evening the canopy was removed and his court came out in the gardens and pavilions of the terrace level. In cold but sunny winters, the pattern was reversed: the terrace gardens being used during the day and the lower level rooms at night. These were adapted solutions of the desert tents of Central Asia, the Moghul homeland.⁶⁵

⁶³ Frampton Kenneth. "The fate of Man and Architecture in the East" (Book Review on Charles Correa). MIMAR, Architecture in Development. Vol 26. December 1987. p. 60.

⁶⁴ Akbar was the Moghul emperor who ruled India in the sixteenth century. He captured Ahmedabad and included it in his Moghul regime in 1572.

⁶⁵ Correa, Charles, "Transfers and Transformations" in Khan, Hasan-Uddin (Ed.). Charles Correa, Singapore: Concept Media Pte. Ltd., 1987. p. 166

Correa has tried to paraphrase this concept in the museum complex by breaking the functions of the complex into a series of disaggregated modular volumes. As mentioned earlier, these volumes are organized around a court with lobbies serving as pause spaces. Some courts are open to sky and have water bodies while the others are landscaped with rocks (Figure 5.15, 5.16). These courts develop a microclimate for the hot and dry region in which the building is built.

All these points show how many lessons of the vernacular have been adopted in the design of the Gandhi Memorial Museum. Although the building does not show a positive response in terms of the linkage of the museum to the rest of the building complex and the river, Correa tries to found his approach on a traditional vernacular base. The building also shows a strong and sensitive response to climate. Also the building does not sentimentally evoke the images of the traditional vernacular found in the city. Correa uses elements like the courts, meandering spaces, and the idea of a horizontality in scale in terms of the general principles and applies it to design of the building in the particular region with a hot and dry climate. I now discuss the second building, trying to see how it is different from the vernacular, yet imbibing the spirit of the region and reinterpreted elements.

Doshi's Gandhi Labor Institute

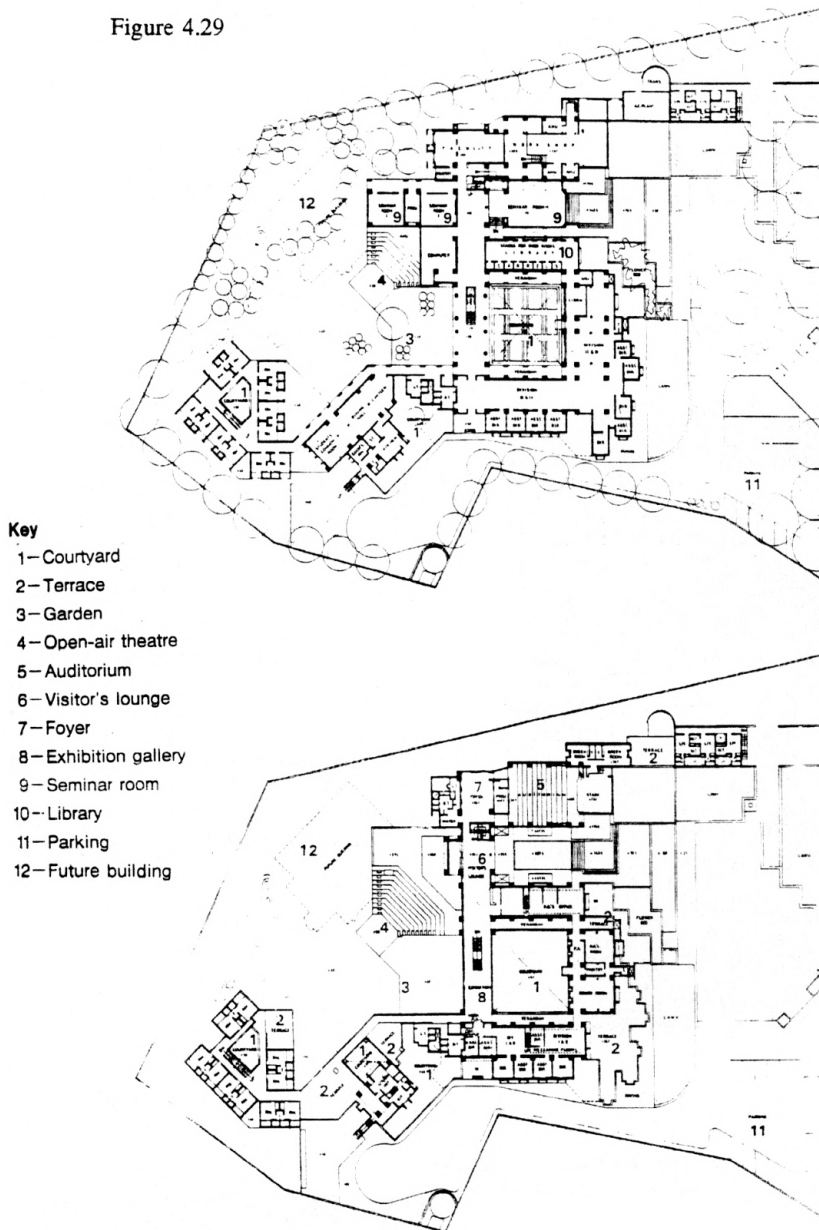
Designed by Doshi, this building is a state-owned institute which is a center for research in the field of labor studies and is also a training centre for labor and welfare officers.

The building contains several seminar rooms, discussion and teaching areas, a library, an exhibition space, an auditorium, offices, and a dormitory block in addition to supporting facilities.

The building is located on a low-lying site along a major traffic artery in the western suburbs of Ahmedabad, and there are several other research institutions in the vicinity of the site (Figure 1.2). What earlier used to be the village Memnagar outside Ahmedabad has now become an area full of mass housing and speculative development. Since this locality is next to the precincts of an area which has all the major educational institutions of the city, there has been a great increase in construction in the area. The vernacular constructions of the village Memnagar have gradually disappeared.

There is a huge plot at the left side of the site which belongs to Ahmedabad Education Committee and is reserved for the design of an educational institution of some kind. There is an expanse of land at the rear of the site which is the property of the Housing Board authorities: eventually mass housing may be built here. As far as the response to the existing conditions are concerned, the building is sited back from the road creating a forecourt with paved areas, lawns and fountains to prepare a visitor for the experience of the building itself (Figure 5.34). The building base is gradually widened towards the ground through platforms, plinths and inviting steps. The advantage of the low level of the site has been used to make the main arrival to the building at a raised level with provision for a lower entry to express duality (Figure 5.35).

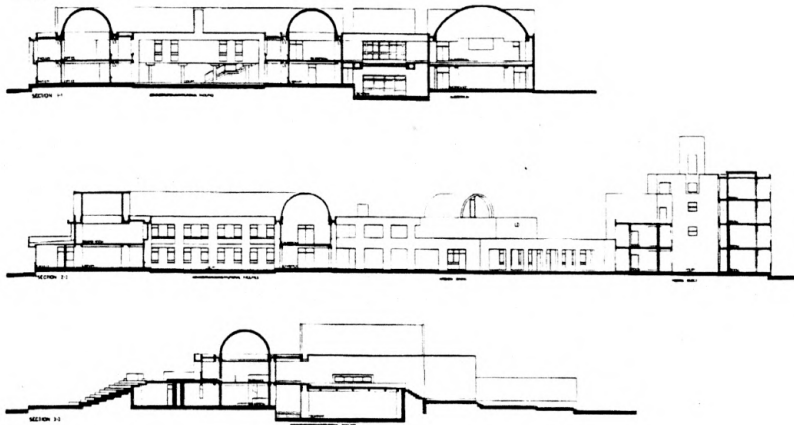
Figure 4.29



4.29 Ground floor level and first floor level plan of the Gandhi Labor Institute.

Figures 4.29, is taken from Curtis William J.R. Balkrishna Doshi: An Architecture for India, N.Y. Rizzoli, 1988. pp. 41-42.

Figure 4.30



4.30 Sections through the Gandhi Labor Institute.

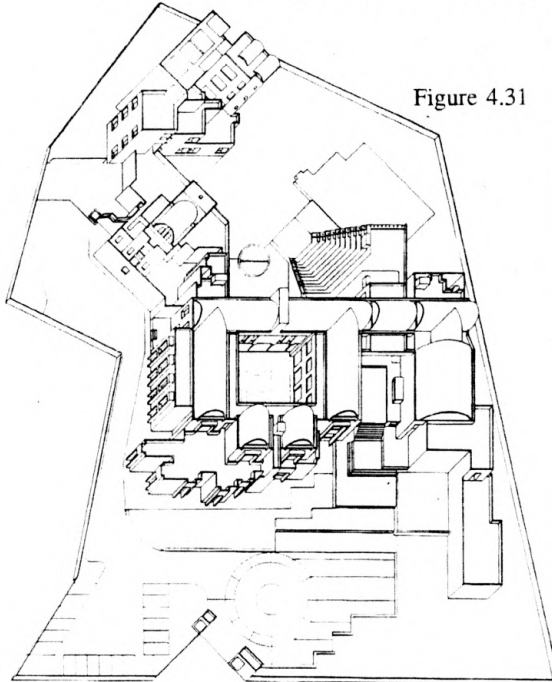


Figure 4.31

4.31 An axonometric view of the Gandhi Labor Institute.

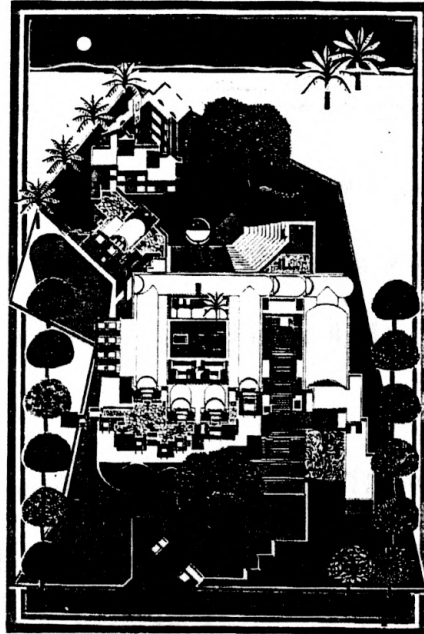


Figure 4.32

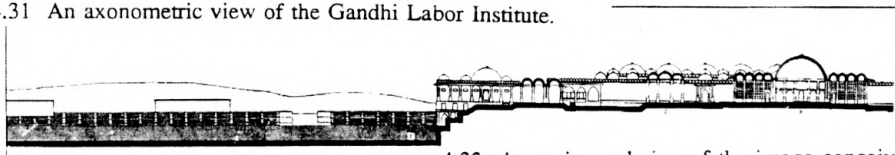


Figure 4.33

4.32 A poetic rendering of the image conceived while designing the Gandhi Labor Institute.

4.33 Analogies with the section as seen through the Sarkhej Mosque complex, Ahmedabad.

Figures 4.30, 4.31, 4.32, and 4.33 are taken from Curtis William J.R. Balkrishna Doshi: An Architecture for India, N.Y. Rizzoli, 1988 , pp. 48-49.

The peculiar shape of the plot has governed to a large extent Doshi's planning of the institute complex. The placement of the blocks has been done in such a way so as to fit the uneven perimeter and to define a precinct to the rear. In addition, there is an open air theater in the rear which abuts the building and steps down to a landscaped garden (Figures 4.29, 4.30, 4.31, 4.32)

Designing for the hot arid climate, Doshi has organized the building around three courtyards. The first one, the entrance court, leads to the teaching and discussion areas. The central courtyard serves as a place for interaction between faculty and students, while the third courtyard is generated by dormitories. An auditorium and an open air theater are located at the rear of the site, with an exhibition gallery providing a link between the teaching and discussion areas on the first floor. Terraces at all levels which come into the shaded area and platforms form an important response to the climate as well as a design feature and allow the activities to extend out into the open (Figure 4.31).

The building has massive volumes, with strongly marked windows. The white vaulting used for the roof of the building is a climatic design feature. The structure incorporates the use of reinforced concrete beams, posts and slabs with ferro-concrete cavity vaults on the upper floors. The vaults are finished with a mosaic of waste glazed tile fragments which help to reflect the heat and glare off (Figure 5.38). For insulation in the hot dry climate, the clay fuses are jammed together and covered by hand with concrete. A broken layer of waste china and glazed tile fragments is then embedded in the outer surface. For

the walls Doshi uses washed terrazzo finishes, which provide a crisp light sensitive surface, almost like that of cut stone (Figures 5.37, 5.39). The ceilings are of exposed concrete and masonry infill is finished with cement plaster. The window embrasures are hooded by deep reveals and there is a play of exterior silhouettes against the sky.⁶⁶ The building elements dramatize the natural elements of land, sky, sun and rain.

Doshi's building has a variety of open spaces, terraces, courtyards and semi-open spaces. He refuses to think of functions as being discrete: the institute's activities flow freely into one another in such a way that it is deliberately ambiguous like in a traditional vernacular village or a typical traditional townscape. The exterior around the building is a garden, while the interior is a shaded retreat (Figure 4.32).⁶⁷

The Institute's relationship to Vernacular

Doshi began to ponder over the lessons and analogies derived from traditional vernacular examples in the early 1970s. In his notes, he tried to return frequently to the need to understand the specifically Indian characteristics in the architecture of the past.⁶⁸ He looked for generic elements and spaces which might transcend the different stylistic periods (Buddhist, Hindu, Islamic, and so forth). The Gandhi Labor Institute suggests many of the lessons that Doshi had learned.

⁶⁶ Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 39.

⁶⁷ Ibid., p. 39.

⁶⁸ Ibid., p. 29.

The plan of the building, which is a collage of different enclosed or semi-enclosed spatial types (courts, steps, corridors, enclaves and so forth) reiterates Doshi's interest in treating large institutional buildings as analogies of traditional townscape (Figure 4.39). The contrived irregularities are controlled by a simple geometrical system based on the square. The building reuses many elements from Sangath (Doshi's studio at Ahmedabad), most notably the concrete vaults covered in fragments of china, the faceted terraces, earth mounds and an amphitheatre (Figures 4.37-4.42).

Doshi also alludes to learning from the traditional village and urban organization, the lessons of climate, massing and design features. Discussing the design of the Gandhi Labor Institute, he remarks, "In order to generate a design incorporating the functional, symbolic and notional levels, I adopted the models of a temple at Vadtal, an inner court of a large Haveli from Jaisalmer and a typical village square". To accentuate the meaning of these images, I employed a series of thresholds and linkages of varied scales"⁶⁹ (Figures 4.42, 4.45). He refers to using steps, plinths and the courtyards as the elements used for informal gathering and giving the complex a sense of place and belonging. Referring to the use of these elements he says, "Then there is the village square which usually has a large tree under which a platform is raised. Essentially, it is a court

⁶⁹ Doshi discusses images of the vernacular employed by him in the design of Gandhi Labor Institute in Doshi, Balkrishna. "Buildings and Projects," Architecture + Design, Vol. V, No. 2, Jan-Feb 1989, p. 71.

- 4.34 A conceptual sketch of the disposition of vaulted forms on a high base in the Gandhi Labor Institute.



Figure 4.34

- 4.35 Doshi's sketch of the museum at Harania, Egypt (designed by Wissa Wassef), 24-1-78.

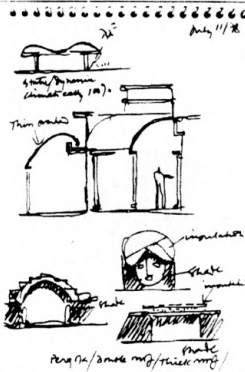


Figure 4.35



Figure 4.36

Figure 4.37



- 4.37 A sketch comparing insulation of roofs to a turban and the idea of vaults.



Figure 4.38

- 4.38 A sketch of vertical and horizontal faceting in a temple.

- 4.36 A conceptual sketch explaining ground forms and vaults, 1979.

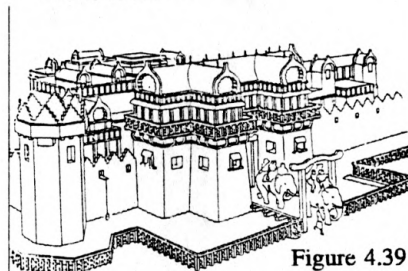


Figure 4.39

- 4.39 An inspiration from the ancient Buddhist gateway Kushinagara, Magadha (reconstruction) for the conception of vaulted forms at Gandhi Labor Institut

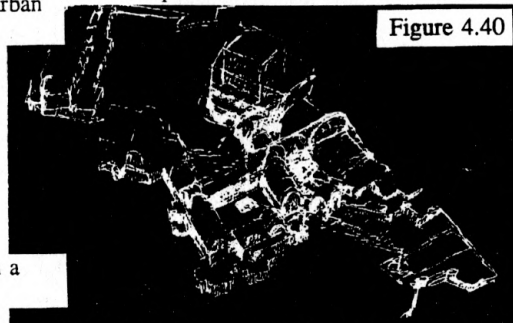


Figure 4.40

- 4.40 A conceptual sketch of the Gandhi Labor Institute.

Figures 4.34, 4.35, 4.36, 4.37, 4.38, 4.39 and 4.40 are taken from Curtis William J.R. Balkrishna Doshi: An Architecture for India, N.Y. Rizzoli, 1988, pp. 138-143.

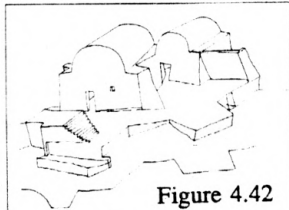


Figure 4.42

4.42 A conceptual sketch of vaults and terraces from Doshi's sketchbook.

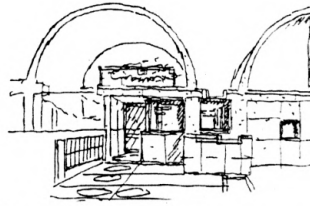


Figure 4.43

4.43 Historical analogies: An inspiration from the Buddhist Chaitya Hall, Karla Cave, 1st Century A.D.

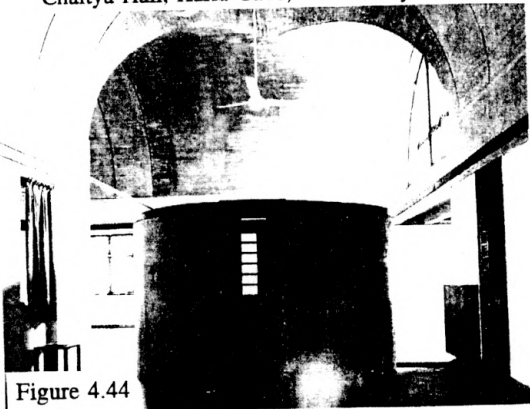


Figure 4.44

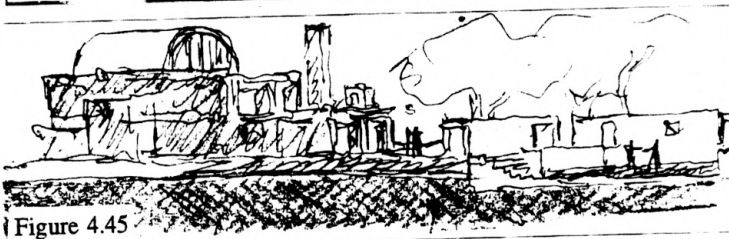


Figure 4.45

4.44 A junction of vaults in the Gandhi Labor Institute.
4.45 A conceptual sketch of the Gandhi Labor Institute.

Figures 4.42, 4.43, 4.44, and 4.45 are taken from Curtis William J.R. Balkrishna Doshi: An Architecture for India, N.Y. Rizzoli, 1988, pp. 34-35.

surrounded by buildings and has the character which gives the place a sense of belonging."⁷⁰ Highlighting the use of plinths in the design of the institution, he continues, "The other characteristic which I have observed and incorporated into the design of the Institute is the way sacred buildings relate to the ground and articulation of the plinth. For example, when a plinth is raised the building no longer seems ordinary but important. Access with reverence is also made possible by breaking the surfaces. The silhouette thus achieved establishes a strong relationship with earth and sky."⁷¹

Doshi has often referred to the way in which Indian temples are organized with stages rising to a plinth from which the superstructure continues in faceted forms. He admits the massing of the building with vaults to be influenced by an ancient prototype known from reconstructions: the city-gate of Kushinagara at Magadha (5th century B.C.), which also had vaults in both directions on a high plinth (Figure 4.39). The ends of the arches in the Gandhi Labor Institute are elaborated in profile so that the rims make a complex shape against the sky. Doshi studied a number of arch systems in the past Indian architecture from Buddhist chaitya arches to the bow shaped chajjas (overhangs) in the 17th century (Figure 4.37).⁷² The vaults of the Gandhi Labor Institute have the vertical proportions and are detailed in a mannerist way, to echo the outlines of the Buddhist

⁷⁰ Doshi discusses images of the vernacular employed by him in the design of Gandhi Labor Institute in Doshi, Balkrishna. "Buildings and Projects," Architecture + Design, Vol. V, No. 2, Jan-Feb 1989, p. 71.

⁷¹ Ibid., pp. 69-71.

⁷² Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 40.

chaitya arches, or even statues with long ear-lobes (Figure 4.43).

Sketches from the design process of the architect are also of help in this analysis because they hint at associations that may have been in the architect's mind. Doshi's earliest drawings show low vaults abutting the banks of earth, with trees all around (Figure 4.34, 4.40, 4.42). Others show a village with terraced roofs rising up to a domical structure on top, an image that was then gradually simplified into vaults rising from platforms (Figure 4.40). One of the architect's visit to Egypt and the sketches of the domical forms in the village of Harania also show the efforts of learning from the vernacular (Figure 4.35). These sketches hint at the evolution of design ideas whose base stems from the vernacular in the design of Sangath as well as Gandhi Labor Institute.⁷³

AXIOM 1 AND THE TWO BUILDINGS

Correa and Doshi Both architects have tried to seek lessons from the Indian vernacular tradition by a careful study of various regions with varying climatic conditions. The architects have attempted to identify Indian solutions to the design of the two buildings. Correa has picked up elements of vernacular spatial organization like a simple plan, the meandering path inside the museum complex, modules making up a specific function in the program, organization of building units around a court, and so forth. Climatically he has used sloping roofs which give a rustic image to the museum as well as the courtyard

⁷³ Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 36.

with water bodies in areas where he has provided resting spaces. Building for a warm climate, he has used appropriate materials which are locally available in the region. These materials, stone for flooring, bricks and stone in paving and landscape, and bricks in the walls. The use of wood in the design of doors and windows, and tiles for the roofs can easily be identified in the vernacular of the region as well in the existing buildings on the site. In addition, Correa has used wooden louvered windows without using glass in the entire museum complex. Wherever essential, he has incorporated modern technology in the form of reinforced concrete beams in the spanning design of the building.

Besides using and adapting certain elements, Correa has also tried to capture the simplicity yet richness of Gandhi's life and tried to depict in the design of the museum. The museum complex is humanly scaled and a visitor to the museum can easily relate the old Gandhi ashram and the other buildings to the new museum.

He has also tried to learn the principles and draw on images from different traditional buildings all over the country, for example the desert villages of Banni and the fort cities of Agra, Delhi and Fatehpur Sikri.

In the design of his Gandhi Labor Institute, Doshi has also tried to experiment with vaults and the massing of the building as interpreted from the traditional vernacular. Whereas the white glazed tile fragments used for the vaulting in the roof, show an approach towards using the local building skills of the labor available in the region effectively, this roof element is also an effective climatic design solution drawn and incorporated in a

modern context from images of traditional buildings of the past. The organization of the building's plan around three courts for varying activities, the effective use of elements such as plinths as well as shaded areas show lessons learned from the vernacular in regard to climate. Though Doshi has used a modern architectural vocabulary as far as the design of the various portions of the institution, he has tried to generate the forms which fuse the more durable principles of modern architecture with fundamental lessons drawn from the past. There is no attempt to copy or simply reproduce external features of the past local styles. Rather, Doshi has used the local materials like brick, stone, and terrazzo. Wherever appropriate, he has used modern technology as a tool to achieve certain results; for example, the use of the glass blocks as skylights to achieve a certain light quality.

Doshi's search for form is intuitive and he relies on analogies, poetic connections and a store of impressions in his artist's memory. The generating ideas emerge as sketches in his notebooks. The earliest conceptions of the design of the institute as well as his office were of a subterranean community hooded by vaults, and of a village climbing up a hill. Deriving lessons from the traditional architecture of the Indian temples, he has raised the building on a plinth as well sunk the rest of the building in the ground.

In sum, both architects have tried to draw on images from the past as well as the vernacular existing in the region. Both architects have been active in influencing the new generation of architects, and interestingly, it is the more vital, vernacular principles of Indian architecture (rather than the classical idiom) that they draw from for the major part

of the inspiration. The translation of the themes from the vernacular in both buildings are central to the Indian sensibility. The strength of the two buildings is that they try not to interpret the vernacular in the traditional language, but to find a language contemporary in its manifestation, and to express this at varied scales of building. Both buildings, in addition to supporting Frampton's argument for a reinterpretation of the vernacular, also respond to cues in the setting, without resorting to superficial mimicry of neighboring buildings and vernacular resulting in kitsch.

AXIOM 2: THE MODERN MOVEMENT

Having discussed Frampton's first axiom in regard to the two buildings by Correa and Doshi, I next consider the second axiom, which relates to the Indian situation as it has links with modernism.

With regard to this second axiom, Frampton emphasizes that the regionalist work in today's world should be a point of departure from the modernist heritage. Frampton suggests that the historical avant garde seems to be over and remarks, "We are confronted with the paradoxical situation in which, while modernization continues with unabated voracity at every conceivable technical and structural level, the romance of discovery and invention have lost its popular appeal."⁷⁴ He regrets that the architectural profession and the building industry have been monopolized, and everything has been transformed into commodity. He asks, "How may we ground the practice of our admittedly marginal discipline without blindly reiterating a modern syntax...Is there a middle ground left for another kind of practice, however marginal ?"⁷⁵

Frampton suggests that the lessons learned from the critique of the modern architecture should be absorbed in critical regionalism, which seeks to offer a middle ground between pure technique, reductive functionalism other tenets of the modern

⁷⁴ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 20.

⁷⁵ Ibid., p. 21.

movement and the idea of populism associated with post-modernism. Regionalism strives to put back into architecture the continuity in a given place between the past and present forms of building, which has been lost to modernism.

How does the second axiom relate to the two buildings I have chosen to study? What has been the effect of the modernist movement in India and the region in which the buildings have been built? How do the various tenets identified by Frampton to my present study? These are the questions I now address with regard to Frampton's second axiom dealing with modernism.

MODERNISM AND INDIA

Modernist architecture was created in the industrialized countries of the West where the avant garde attempted to adapt to the rapidly changing social and technological conditions. These modernist architectural forms had an appreciable impact on the less developed countries in the east in the 1940s and 1950s but the imitated forms did not always possess the poetry and depth generated by the master works of the International style.⁷⁶ It was Le Corbusier and Chandigarh that set the pace for modernism in India. The Prime-minister Jawahar Lal Nehru's invitation to Le Corbusier in 1950 to design this city, the new state capital of Punjab marked the beginning of the age of technology, urbanization and modernization when buildings were born and based on Corbusian

⁷⁶ Curtis discusses the scenario of modern architecture and developing countries since 1960 in Curtis, William J.R. Modern Architecture since 1900, Phaidon: Oxford, 1987 pp. 356-357.

principles. This marked an avant-garde attitude with regard to the modernist movement in India.

According to Frampton, the avant-garde attitude refers to breaking decisively with all past cultures and traditions, meanings and values. The avant garde saw themselves as a natural force which had no choice but to break away from history and tradition.⁷⁷

Industrialization, modernization and westernization were the key themes of economic and social development under Nehru's prime ministership. Profound changes took place in both moral and material values after the Independence of India. By 1960, the political, bureaucratic and industrial elite had emerged as the major patrons of architecture; with a few exceptions. They sought buildings which would project the modern image of themselves and of the country.⁷⁸

Modernist architecture was also adopted in the Nehru Period as a suitable vehicle for the technological and social programs for a rapid modernization of the country. Explaining the advent and the need felt for a modern movement in India Curtis remarks, "After Independence, it was necessary to make a clean break with the cultural forms of the Raj:

⁷⁷ Frampton, Kenneth. "Avant-garde and Continuity", Modern Architecture and the Critical Present, Architectural Design Profile, N.Y.: St. Martin's Press, July-August, 1982.

⁷⁸ Chatterjee, Malay. "The Evolution of Contemporary Indian Architecture", in Rewal, Raj; Veret, Jean-Louis; Sharma, Ram (Eds.) Architecture in India, Paris: Electa Monituer, 1985. p. 124.

Modernism had some of the right associations with 'progress' and 'liberalism'.⁷⁹ With the Corbusian buildings, India was supposed to break away from the Colonial past and Edwin Lutyens, who had been an influence on the colonial architects, and adopt a new and progressive outlook.

The modern movement in India, however, was developed through faithful imitation of the Masters. Critic Ravindran writes, "In mere stylistic reductionalism Le Corbusier is reduced to deep exposed concrete fins or awkwardly curved sun shades, or by more adept to mere proportions of apertures. Louis Kahn comes alive behind the brick openings, in geometric wastefulness in plan, in endless repetitions of the arch, circle and the triangle."⁸⁰

The architecture of the 1960s shows a strong affinity to identify with the Western life styles and institutional frameworks. The new generation of architects who had their initial training in India returned from advanced studies in the western countries (Europe and America). Correa and Doshi, along with a handful of others played a major role in the spread of the modernist movement in India. Educational institutions played a major role in dispersing the so called "International Style". Various architectural institutes arose in the country and teaching curricula in most schools exposed students to the western building techniques and methodology. Students and the architects leaned heavily on the

⁷⁹ Curtis, William J. R., "Modernism and the Search for the Indian Identity", The Architectural Review, Vol. 182, No. 1086, p. 33.

⁸⁰ Ravindran, K. T. "Indigenous India", The Architectural Review, Vol. 182, No. 1086, August 1987. p. 63.

Western design journals and philosophies.⁸¹ The result was that the metropolitan cities were dotted with buildings having a so called 'internationalist style'.

Southern and the eastern India remained relatively unaffected by the Chandigarh experiment but the works of Le Corbusier helped create a modern Indian vocabulary of protective roofs against the rain and sun, monumental louvers, deep recessed verandas for air and shade, water tanks, sluices, shaded porticos and halls. However, in the mid-sixties, some architects like Correa and Doshi started questioning and evaluating the identity of the modernist vocabulary. Sir Claude Batley, the British architect then practicing in India, recommended that the Indians develop a modern architecture "on the solid basis of their own tradition as eminently suited by long usage and experiment to the India of the future". He also remarked, "It is pathetic that India's youngest generation of architects should be so infected with an inferiority complex...as to prefer to take their cue from the hastily developed, inadequately tested but ready-to-hand ideas of the West, rather than by their own intense and critical but respectful research."⁸² However, building activity continued with imitation as a result of a lesser understanding and under exposure producing more and more concrete blocks throughout the country.

⁸¹ Sharma, Ram. "The Search for Roots and Relevance", in Rewal, Raj; Veret, Jean-Louis; Sharma, Ram (Eds.) Architecture in India, Paris: Electa Monituer, 1985. p. 112.

⁸² Sharma, Ram cites Batley, Claude. "Indian Architecture Today", A Broadcast talk, J.I.I.A. July-Sept. 1954, in Sharma, Ram. "The Search for Roots and Relevance", in Rewal, Raj; Veret, Jean-Louis; Sharma, Ram (Eds.) Architecture in India, Paris: Electa Monituer, 1985. p. 112.

According to Frampton, modern architecture also had socialist underpinnings and referred to the idea that the modern architecture could serve the poor segment of the society with mass housing as a part of socialist reforms. In India, with a tremendous population growth, there was a migration of the ruralites seeking work in the metropolitan cities. There was a need for a mass housing (squatter settlements or highrise buildings) which was affordable for the low income families. But the socialist thought behind the modern movement was gradually transformed into low-quality packages of saleable spaces. Critic K.T. Ravindran remarks, "After a good three decades of historical distance, the early pretensions of a socialist architecture through the modern movement appear to be a mere political trick played on the people. All over the 'Free World' it has turned into an architecture which produces cheap packages of salable space; in the Eastern bloc it has been reduced to a boring, morose symbol of authoritarianism."⁸³

ARCHITECTURAL SCHOOLS, EDUCATION AND MODERNISM

Talking about the search for Indian roots and relevance, Indian architect Ram Sharma remarks that there are two distinct approaches as far as the current Indian architectural practice is concerned. The first group, which still dominates, explores the extensive use of new materials and techniques, and the second one researches indigenous materials and locally available techniques inspired by traditional values. The architectural schools and education is a very important source of the products in the form of architects with respect

⁸³ Ravindran, K. T. "Indigenous India", The Architectural Review, Vol. 182, No. 1086, August 1987. p. 63.

to their attitude to modernism. The schools of architecture are encouraging the students to explore the possibilities of regional vocabularies in recent times. The College of Architecture at Chandigarh was heavily influenced by Le Corbusier's architecture in the early sixties and seventies but has seen a remarkable change in thinking with time. At Ahmedabad Doshi founded a new school of architecture which started working with a new regionally based thinking process (Figure 4.48). The Delhi School, which had introduced the International style to students, continued to benefit because of its location and being the capital of the country. Other schools of architecture are encouraging the students to explore the possibility of regional vocabularies.

AHMEDABAD AND MODERNISM

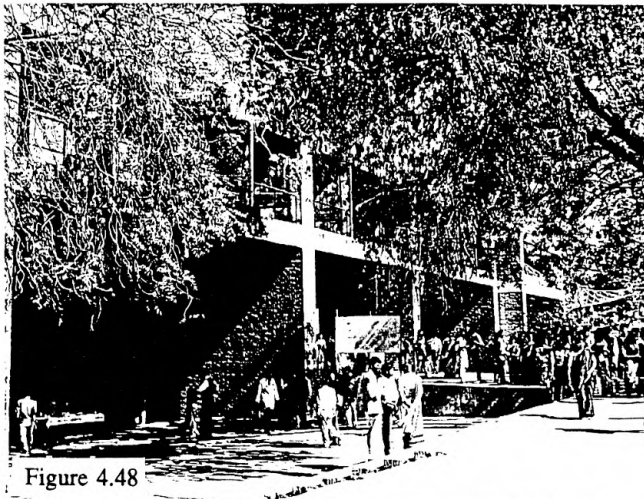
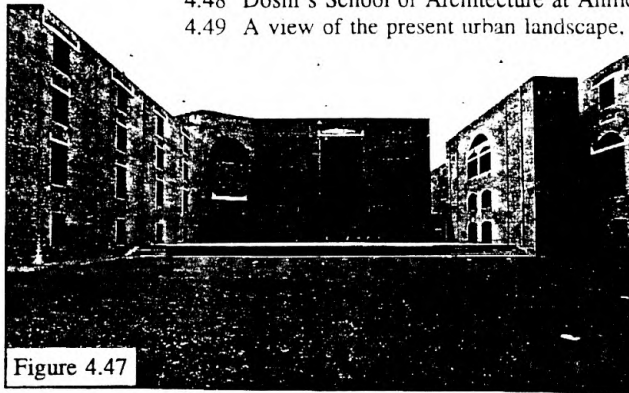
When compared to the other Indian cities like Delhi and Madras, Ahmedabad too is unique in its historical development. It has been slowly transformed from a traditional to a modern city. Historically, in the beginning of the nineteenth century, Ahmedabad was important as the largest trade center in the Western region. It was a major entry point for the distribution of imported goods and a major center for cotton textiles. By the end of the nineteenth century, Ahmedabad had become known as the model textile center and it was called the 'Manchester of India'. The textile mills brought a lot population in the city in the form of workers, traders and artisans to serve and add in the growth of the city.⁸⁴

⁸⁴ Serenyi, Peter. 'Timeless but of Its Time: Le Corbusier's Architecture in India', Perspecta, Vol. 20, Cambridge: MIT Press, 1983. p. 93.

4.47 Indian Institute of Management designed by Louis Kahn at Ahmedabad.

4.48 Doshi's School of Architecture at Ahmedabad.

4.49 A view of the present urban landscape, Ahmedabad.



Mahatma Gandhi chose to make his home in Ahmedabad in 1916, and this opened an important new phase in the city's history. It was from here that Gandhi left in 1930 to lead the Famous Salt March, which initiated the second great round of the national Satyagraha (non-violent resistance). His interest and arbitration on issues of labor relations with the mill owners heralded the establishment of the Ahmedabad Textile Labor Association, or Majur Mahajan. It was one of the best organized and conducted trade unions in the history of India and carried on labor work guided and based on Gandhian lines.

With Indian independence in 1947, Ahmedabad became a part of the Bombay state. Gujarat was formed in the year 1960 with Ahmedabad as its capital. Even before Independence, Ahmedabad was regarded as one of the cities that was least under the European influence, both architecturally and socially. Colonialization was not a decisive factor in its industrialization.⁸⁵ Indian architect, Vivek Nanda remarks, "Its progress can be attributed to a 'Parkinson's law' implicit in its corporate tradition - a by and large hereditary plutocracy of a financial mercantile elite."⁸⁶

Modernism had its affect on the architecture and urbanism of Ahmedabad too. Le Corbusier in India also designed numerous buildings in Ahmedabad: the Sanskar Museum

⁸⁵ Gillion, Kenneth. Ahmedabad: A Study in Urban History, University of California Press: Berkeley, 1968.

⁸⁶ Nanda, Vivek. "Urbanism, Tradition and Continuity in Ahmedabad," MIMAR, Architecture in Development. Vol. 38, March 1991. p. 34.

(1955), the Sarabhai(1955), Shodhan (1954) villas and the Millowner's Association building (1954)(Figures 5.1, 5.2, 5.3, 5.4). These designs even if they cannot be compared to those of Chandigarh because of their much smaller scale, illustrate and leave a clue to the heritage left by the modernist movement and Corbusier in Gujarat. The educational institutions in Gujarat too played an important role in dispersing the modern trends and the so called "International Style."

In Ahmedabad, a new cultural and architectural awakening was initiated by industrialists led by the Sarabhai family, who commissioned four of Le Corbusier's works for the city in the 1950s. Vikram Sarabhai, the great Indian scientist also belonging to the Sarabhai family, invited Louis Kahn to design the Indian Institute of Management, which is one the premier institutes for Management Studies in Asia (Figure 4.47). A result was that Louis Kahn also played a major role in influencing the architects of the region.

B. V. Doshi, who had worked with Le Corbusier in Paris, became the site architect for these buildings and eventually settled down in Ahmedabad. By the early 1960s, the focus of architectural awareness and patronage shifted from Bombay. Chandigarh and Ahmedabad emerged as the principal sources of patronage. The country wide celebration of Mahatma Gandhi's centenary in 1969 also contributed to questioning the modernity and provoked a new search for appropriate solutions in architecture based on the

traditional experience of town planning, neighborhood planning and climate control.⁸⁷ Nevertheless, the overall modernist impact on the morphology of the city of Ahmedabad has been less than good because it has not responded favorably to the historical continuity of the city. There is a transformation of the city fabric because of the building of a series of individual buildings on individual plots. The fabric of the city which was architecturally rich and articulated at various levels of climate, materials and tradition and had stability and social harmony has undergone a transformation. Instead, there have been random and sporadic housing developments with ugly concrete tower blocks which are common sight (Figure 4.49). Despite a deterioration of the urban fabric, the chaos is offset because of the socio-cultural milieu of the city.⁸⁸ The city also comprises eminent architectural practices of Doshi and Raje, students of Corbusier and Kahn. Both have been trained in the modernist tradition but carry on the search for an appropriate modernity in the Indian context.

CHARLES CORREA, GANDHI MEMORIAL MUSEUM AND MODERNISM

Gandhi Memorial Museum was one of Correa's first commissions, when he started his practice after an education in the U.S.A. Perhaps because of his American training and education, he had been able to see the effects of the modern movement firsthand and so has rarely been tempted to import Western ideas into India. Like most architects of his

⁸⁷ Chatterjee, Malay. "The Evolution of Contemporary Indian Architecture", in Rewal, Raj; Veret, Jean-Louis; Sharma, Ram (Eds.) Architecture in India, Paris: Electa Moniteur, 1985. p. 135.

⁸⁸ Nanda, Vivek. "Urbanism, Tradition and Continuity in Ahmedabad," MIMAR, Architecture in Development. Vol. 38, March 1991. p. 34

generation he has been influenced by Le Corbusier, but by his use of elements adapted in regard to the response to the Mediterranean sun -- e.g. the overhangs and the double heights.

In contrast Correa believes that Corbusier's influence in the colder climate has not been beneficial because he says, "these heroic gestures had to withdraw into defensible space, into the mechanically heated (and cooled interiors) of the building."⁸⁹ He sees the outcome of this tendency in the new shopping malls and hotels. "In these incredible lobbies, despite the spatial pyrotechnics, the ambience is somewhat artificial, contrived and still born. And for a simple reason: they do not connect with the kind of open to sky space which could quicken them to life."⁹⁰

Since, the Gandhi Memorial Museum was Correa's first commission which was, it is difficult to trace how his earlier work affected the design of the museum. However, the roots of the grid on which he bases the plan of the museum and the section can be traced to the modernist vocabulary. As Frampton explains, "A western influence of primary importance in Correa's work is the cluster, matt building, paradigm developed by ABAT Afrique and Team X in the 50s; above all the low rise Moroccan settlements projected

⁸⁹ Correa Charles. The Thomas Cubitt Lecture, "A Place in the Sun", delivered by Charles Correa on 31st January, 1983 and published in the Journal of the Royal Society of Arts, May 1983. Also referred by Cantacuzino, Sherban in "Ideas and Buildings" in Khan Hasan-uddin, Charles Correa, Singapore: Concept Media Pte. Ltd., 1987. p. 10.

⁹⁰ Ibid., p. 10.

and partially realized by Bodiansky, Andre'Studer and Shadrach Woods."⁹¹ Looking at the subsequent works of Correa, one sees a hint of modernist vocabulary in many of his projects, including the Administration Building of Vallabh Vidyanagar University (1958-60, Figure 4.52), the ECIL Office Complex, Hederabad (1965-68, Figure 4.50), and the Kanchenjunga Apartments, Bombay (1970-83, Figure 4.51).

The site for the Gandhi Memorial Museum on the banks of river Sabarmati and next to Gandhi's old ashram offered Correa much in terms of associations and a strong context in which to design. He tried to interpret the modernist vocabulary for the museum in such a way that the final product reflected an Indian regional building as compared to other modern buildings being built at the time in Gujarat, Ahmedabad and the other parts of India. In fact, Indian critic Malay Chatterjee best sums up the situation. He remarks, "Correa's memorial to Gandhi in Ahmedabad is a pioneering attempt to use a new architectural vocabulary to express both cultural continuity and ambiguity. This was the first work to consciously depict the ambiguity of the fifties: an India torn between the twin pressures of traditional belief systems and a simultaneous desire for modernism."⁹²

⁹¹ Frampton discusses Correa in Frampton, Kenneth. "The fate of Man and Architecture in the East" (Book Review on Charles Correa). MIMAR, Architecture in Development, Vol 26, December 1987. p. 60.

⁹² Chatterjee, Malay in "The Evolution of Contemporary Indian Architecture", in Rewal, Raj; Veret, Jean-Louis; Sharma, Ram (Eds.) Architecture in India, Paris: Electa Monituer, 1985. p. 126.

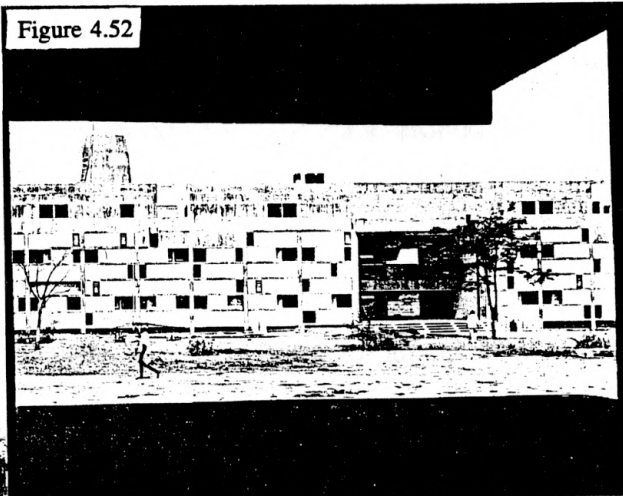
Figure 4.50



Figure 4.51



Figure 4.52



- 4.50 Modernist vocabulary and a view of the ECIL Office Complex, Hyderabad (1965-68) by Charles Correa.
- 4.51 A view of the Kanchenjunga Apartment Complex, Bombay (1970-83) by Charles Correa
- 4.52 Corbusian influences on Charles Correa: A view of the Administration building at Vallabh Vidyanagar university, Anand (1958-60).

The Gandhi Memorial Museum does not show an attitude of avant-garde as the modernist buildings built at the time did. Rather it is a humanly scaled, modest building designed by Correa in the premises of the Gandhi ashram. The building does not take an attitude of reductive functionalism. There are areas which are meant for specific functions like the section which houses photographs and paintings, another section which houses books and another one meetings, and so forth. On the other hand, in the design of this building, Correa has also tried to work out a meandering route for the visitor to the complex. There is no planned sequence for going through the building. The route shows various possibilities to the visitor and lets him explore the building according to his wish or interests. The meandering lobby spaces in the museum suggest a multifunctional use as against a rigid use of specific functions. The landscape around the building complex also offers a similar experience.

The building also hints at social underpinnings -- another aspect identified by Frampton in his discourse on modernist architecture. Mahatma Gandhi was a socialist at heart, and Correa expresses this in the design of the building. The building avoids making a monumental or overwhelming statement. As far as an approach to structural rationalism is concerned, the materials used in the building as well as the structure can be understood rationally. But Correa avoids making the building and its elements absolutely rational, for example, Correa avoids the use of glass in the windows.

However, the correct use of materials suited to the climate and region have been used.

Wherever essential Correa has used the modern building technology for example Correa has employed reinforced cement concrete for the structure of the building. As far as the layout of the spaces is concerned, despite of modular units, he avoids being absolutely rational and provides some ambiguity in terms of the casual movement route which meanders through the building. Correa employed the modular unit in the building for repetition and for the future possibility of growth. He has tried to work out a structure which permits accommodation and change with time as against a rigid and pure form. The building has no ornament, and all overall there is a balanced use of materials in the construction of the building and the details of the elements.

BALKRISHNA DOSHI, GANDHI LABOR INSTITUTE AND MODERNISM

Doshi studied architecture at the Sir J.J. College of Architecture in Bombay. The school had previously enjoyed the stimulus of Sir Claude Batley who had urged an arts and crafts synthesis of the East and West. Doshi left Bombay for London to widen his horizons. He joined the Atelier of Corbusier and worked under Corbusier for four years. His contact with Corbusier happened to coincide with the period during which he designed Ronchamp, La Tourette and the Jaoul houses as well as the Indian buildings in Chandigarh and Ahmedabad. Doshi later on returned to India to help supervise Le Corbusier's constructions in Ahmedabad.

Doshi set his practice in Ahmedabad because of direct contact with prestigious clients of Corbusier. Besides Ahmedabad had a splendid heritage, well represented in the traditional

architecture of the city, mosques and stepped wells. The earlier projects of Doshi echoed of lessons learnt from Le Corbusier. Doshi also helped to arrange the visit of Louis Kahn in 1962 for the design of a new Indian Institute of Management (I.I.M.) under the patronage of the Indian scientist, Vikram Sarabhai. The collaboration and friendship with Kahn also had a great impact on Doshi's vocabulary. The late 1950s and 1960s also witnessed the final dissolution of the International Style and search on the part of many architects in the world for a more substantial and regionally rooted vocabulary. Doshi also started pondering over the Hindu philosophy and wrote about the need to transcend mere function and structure and to touch the spirit through proportion, light and form.⁹³

The Gandhi Labor Institute was built in 1984 at a time when the modernist movement had lost most of its impact. There has been a mood of regional resurgence among the committed Indian architects in the last decade, and they have been making increasing efforts to create an architecture which attempts at reflecting the traditions, materials and climate of the region and making an effort towards place creation. Doshi's Gandhi Labor Institute has been among one of these attempts.

Doshi's earlier institutional works like the L.D. Institute of Indology (1957-62, Figure 4.55), the Premabhai Hall (1956-72, Figure 4.52), and the Central Bank of India (1966-67, Figure 4.53), show a strong influence of the Corbusian vocabulary and forms. In fact,

⁹³ Curtis, William J. R., Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 17-18.

speaking about Corbusier and his gradual formation of his own style, Doshi says, "Architecturally all my buildings have been influenced by him, though not obviously..... When I left Corbusier I took a vow that I would not use the elements -- apparently the same elements associated with him. When you decide this, then you are left only with his spirit, which is expressed in proportions, modulations of space, creations of rythms, tonalities."⁹⁴

Doshi gradually moved beyond the influence of Corbusier and started a search for a more appropriate architectural vocabulary for the region and read his local context better. He started a search for reinterpreting the principles underlying great buildings in the past. Sangath, his own studio on the edge of the countryside to the west of Ahmedabad, was like a breakthrough for Doshi and Gandhi Labor Institute in a way a continuation which illustrates the gradual transformation of an architect who learns to read the region better (Figure 4.56).

Nevertheless, the elements that are expressed in Doshi's vocabulary stem in the long run from Le Corbusier via Doshi's various schemes using vaults. The roots of the elements and his design vocabulary can be seen in the design of the Sarabhai House at Ahmedabad, as also the unexecuted project for a house for an agriculturist, Cherchell Algeria, 1942 for which Corbusier wrote: "En batissant moderne, on a trouve, l'accord avec le paysage,

⁹⁴ Doshi Balkrishna, "Selected Thoughts of the Architect" in Curtis, William J. R., Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 156.

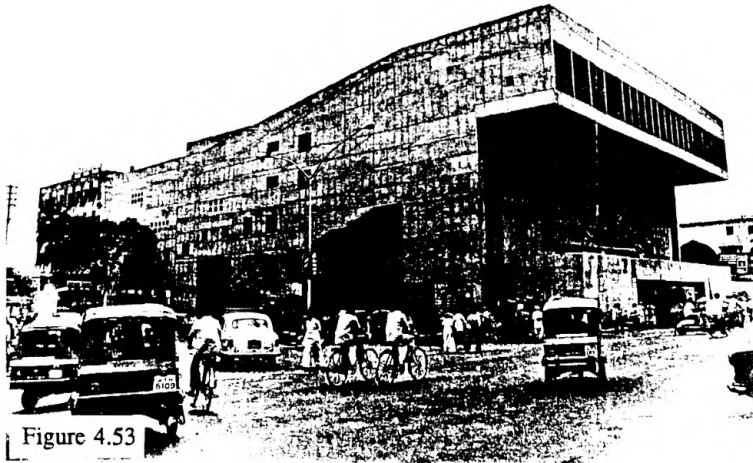


Figure 4.53

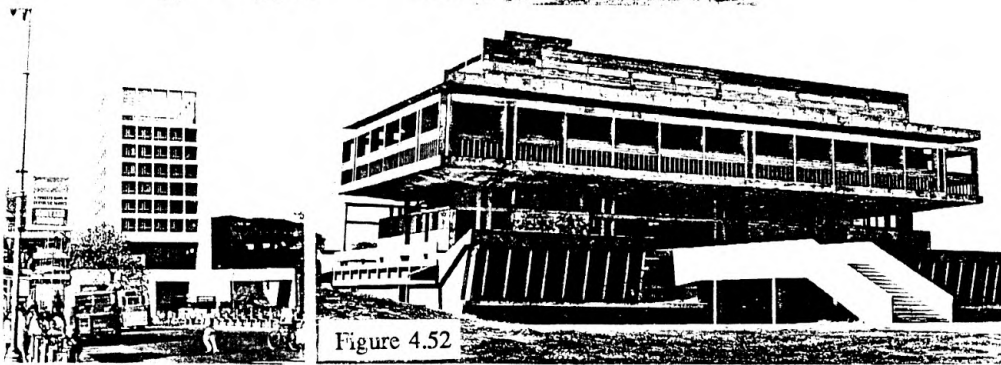
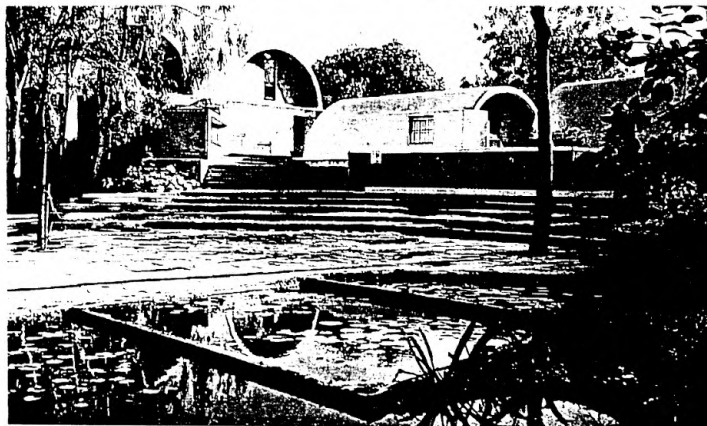


Figure 4.52

Figure 4.54



4.52 Doshi's early Modernist vocabulary: L. D. Institute of Indology, Ahmedabad (1957-60).

4.53 A view of Premabhai Hall, Ahmedabad (1956-1972)

4.54 Corbusian influences on Doshi: Central Bank of India, Ahmedabad (1966-67).

le climat et la tradition." (Building in a modern way, one has found harmony with the countryside, the climate and tradition.)⁹⁵ Many of the features at Sangath as well as Gandhi Labor Institute are adaptations and reworkings of the modernist vocabulary. The pool comes from the Le Corbusier's "ear-shaped" curves in the Millowner's Building. The amphitheatre steps echo Wright's Taliesin and certain of Aalto's ideas. The broken china reminds of Gaudi's Guell Park, the waterbodies and the channels are inspired by the one at Salk Laboratories in California by Louis Kahn and so forth. But Doshi has blended these together to form a vocabulary of his own.⁹⁶

The Gandhi Labor Institute does not show an attitude of avant garde as the modernist buildings did. The building avoids making a monumental expression, despite having a heavy articulated massing. There is an effort to make the multi-functional spaces -- for example, the courts and the landscape -- work communally. These spaces are articulated with the use of plinths and landscape. The scale is accommodating to human scale and the platforms, plinths and the steps encourage the people to sit, to chat, or to contemplate in a landscaped garden. The building does not show an attitude of reductive functionalism. The organization of the building is such that there are various possibilities to move through the building e.g. the entry is at two levels; one entrance takes the visitor into the building while the other takes the visitor to the landscaped garden at the rear of the

⁹⁵ Curtis writes about Doshi's influences in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 38. He refers Le Corbusier, Complete Works, 1938-46 p. 116

⁹⁶ Ibid., p. 165.

building. Also, are many rest spaces inside the building which provide communal interaction.

The building also tries to hint at a socialist underpinning and incorporate the socialist traditions in the history of the laborers of Ahmedabad and the spirit of Gandhi, who was a pioneer and stood boldly for the cause of labor welfare in Ahmedabad. This is done by organization of the building around the three courts and providing lot of spaces for communal activity.

As far as the approach to structural rationalism is concerned, the materials used in the construction of the building can be understood rationally. But Doshi tries not to make the elements used in the building absolutely rational. Speaking about rational design he says, "When only rational demands are satisfied in a given design, the architectural experience is measure-oriented and generates responses concerning functional needs. Architecturally speaking, the approach is towards efficient planning, but such designs based on mere logic often tend to be sterile."⁹⁷

The structural tool which Doshi uses in his concept of space and form is hybrid. The expressive potential of the space and form gains importance over the rigid notion of structural expression. This can be seen in the interplay of the wall, the column and the

⁹⁷ Doshi Balkrishna, "Selected Thoughts of the Architect" in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 165.

piers at the Gandhi Labor Institute (Figure 4.). For example, at the Gandhi Labor Institute, the end walls are a wrap-around skin that create a base from which the vaults spring -- the openings are a part of the wall and not a product of the vault. The structural theme of the vaults, for example, in the Gandhi Labor Institute is transformed into an articulated expression rather than a purist abstraction having a rigidity of form (Figure 4.).⁹⁸ As architect and theorist Kurula Varkey describes discussing the constants which underlie Doshi's theory of design, "The quality of incompleteness or the touch of imperfection is a principle that the vernacular exhibits in great strength. In the Indian aesthetic sensibility this has been effectively used to evoke a sympathetic relationship with the viewer and draw him into the scheme of things....Not everything is perfectly resolved, not everything is in place -- in fact, has that little disorder that contributes to the vibrancy of life. Gradually, the fascination for the grand, the perfect and the pristine give way as the ego is subdued and the acceptance of the multiplicity of expressions of life grows on one. Time mellows and enriches all experience. This is true of architecture as of life."⁹⁹ The Gandhi Labor Institute has this quality. Doshi has taken lessons from his earlier work where he tried to make a complete architectural statement, and tried to work out solutions which permit addition and growth.

⁹⁸ Varkey, Kurula. "Themes and Ideas" Architecture + Design, Vol. 5, No. 2, Jan.-Feb., 1989. p. 32.

⁹⁹ Ibid., p. 34.

AXIOM 2 AND THE TWO BUILDINGS

Both Correa and Doshi show an attempt towards formulating a modern architecture in an Indian tradition. Each in his own way has tried to generate forms that fuse the more durable principles of modern architecture with fundamental lessons drawn from the past. The architect's contribution has great relevance for the other developing countries undergoing drastic change but also trying to reincorporate features of their ancient heritage. Curtis remarks, "Sometimes the reaction of the Western models becomes so fanatical that there is a retreat to Luddite pretention that modernization is evil. There also may be an attempt at producing the external features of past local styles. But change is relentless and the real challenge is to come up with vital solutions that crystallise the needs and aspirations of today while touching the timeless levels. Skin-deep modernity and shallow traditionalism are both to be avoided."¹⁰⁰

Looking at Correa's and Doshi's earlier works, one can trace the effect of Le Corbusier and the modernist vocabulary in the design of the two buildings. Correa and Doshi, however broke away from this trend; the design of the museum and the labor institute, do not show an avant garde attitude. The two architects have instead worked on indigenous and innovative use of the materials. They have reinterpreted elements, and forms and the vocabulary from the lessons of the masters and formulated their own design vocabulary for the region. Correa's Gandhi Memorial Museum was specifically a pivotal

¹⁰⁰ Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y: Rizzoli, 1988. p. 46.

building in this regard. The language of the building, the brick piers, concrete beams and low pavillions were an intelligent blending of Le Corbusier and Kahn but the humble scale and the meandering route evoked the Indian vernacular. It was one of the first buildings where Correa tried to work out a regional response in the design of a building.

Examining the buildings in regard to the other tenets of modernism: -- functionalism and structural rationalism -- and so forth one can trace the rear-guard action against modernism. The credo that "form follows function," and how the form of the building should be a response to the functional needs formed the theme of functionalist tenet. With modern Indian architects, functionalism, too, was one of the most important tenet which was inescapable with the advent and impact of modernism. However, Correa and Doshi gradually overcame the idea of reductive functionalism and designing buildings which accommodate change and growth with time.

Both architects tried to design the two buildings with the ideals of Gandhi in mind; they hint at socialist underpinnings. This can be seen in the communal spaces unincorporated in the design of the buildings and the various elements like the lobby spaces, courts and plinths in the memorial museum and the plinths, courtyards, amphitheatre and meeting spaces inside the Labor Institute complex. Both buildings have spaces which abound in ambiguity of purpose and yet are coherently articulated. Both Correa and Doshi also do not show a puritanical approach towards structural rationalism. The materials used can be understood as a part of the construction and the structure of the roof as well as the walls

in both the buildings transcends into poetics rather than mere construction.

Thus in examining Frampton's axiom 2 in regard to the modern movement and the two buildings by Doshi and Correa as well as the region, one can say the buildings tried to work out a different vocabulary compared to the modernist one. Both buildings could be said to be an example of a rear-guard action against modernism and learning from the lessons of the modern movement.

After examining the Frampton's first two axioms, I present the next two axioms in the following chapter, which deals with the myth and reality of the region and the idea of culture versus nature.

CHAPTER 5:

MYTH AND REALITY OF THE REGION AND CULTURE VERSUS NATURE

Having discussed Frampton's first two axioms in regard to the vernacular and the effect of the modern movement with respect to the two buildings by Correa and Doshi, I now consider axioms 3 and 4, which deal with issues of myth and reality of the region and culture versus nature. These two axioms are grouped together for discussion because, after differentiating regional from vernacular and modernist forms, one comes to the question of what exactly constitutes a region. Frampton emphasizes the importance of a school of thought, and architecture being important to the constitution of a region. The fourth axiom depicts the conflict between culture and nature and emphasises that a regional architectural form should be a product using an appropriate response to the topography, climate and light of the place. This axiom also emphasises the tectonics of the built form which can raise an ordinary construction to an art form.

AXIOM 3: THE MYTH AND THE REALITY OF THE REGION

Frampton's third axiom relates to the issue of limits of the region and its reality. What does Frampton imply when he speaks about the limits of a region and the idea of a school? How does the client and a specific culture make an impact on the commission of the making of a building? How do these ideas relate to my region and the two buildings? I now address these questions in the sections which follow.

In regard to this third axiom, Frampton emphasizes that the limits of the region and its

reality are crucial issues important to the constitution of the local form. He stresses the idea of a school as a major component in the making of a regional form. The idea of belonging to a school of architectural thought, and a local culture becomes very important. The idea of a region is considered from an institutional standpoint. Frampton suggests the creation of critical regions are like the creation of schools. The idea of a critical region means an area which has common cultural links in terms of the language, social customs, lifestyle and so forth. Along with the idea of a cultural and architectural school Frampton emphasizes the institutions dealing with the labor -- artisans as well as the local arts and crafts in the region.

The second idea, which Frampton proposes in regard to this axiom is the importance of a committed client because, without such an individual committed client, it would be difficult to achieve a culturally significant work. All important regionalist works which reflect the culture and tradition of a region have often found the patronage of a culturally conscious clientele. The main theme in regard to this axiom is the understanding of the limits of the region and its institutional status without being restrictive.

AHMEDABAD AND A REGIONALIST SCHOOL OF CULTURE

Ahmedabad has had the presence of a very strong and economically prosperous cultural school since its founding in 1411 A.D. by Sultan Ahmed Shah of Gujarat. It has been a city of commerce and industry centered around textiles. The city enjoyed great prosperity during its centuries of existence. The British presence in Ahmedabad was never too

pervasive, largely because the economic base of the city's highly developed culture had been trade and industry rather than agriculture. The leading citizens of the city were businessmen or lawyers rather than landowners. This enabled the people of Ahmedabad to take the British on their own terms by offering them stiff competition through mechanizing the city's textile industry.¹⁰¹

With the help of the city's Jain financiers, the modern textile industry was founded in 1861 and the city was known as the "Manchester of India." The key factor behind the success of the textile industry was that, since its founding, it had been run by a closely knit group of Jain families who valued cooperation and social cohesion rather than competition among themselves.¹⁰² Their philanthropic nature, work ethic, puritanical and frugal character as well as their entrepreneurship contributed much to the success of Ahmedabad's modern textile industry.

The economic growth that Ahmedabad enjoyed since 1860s was given a further boost by World War I, when the termination of British imports allowed the city's textile mills to supply India's needs more fully.¹⁰³ After the war Ahmedabad utilized its unprecedented economic power by becoming, in Gillion's words, "a financial and political base for the

¹⁰¹ Serenyi, Peter. "Timeless but of Its Time: Le Corbusier's Architecture in India" in Perspecta, Vol. 20, Cambridge: MIT Press, 1983. p. 93.

¹⁰² Gillion, Kenneth L. Ahmedabad: A Study in Indian Urban History, Berkeley: University of California Press, 1968. p. 94.

¹⁰³ Serenyi, Peter. "Timeless but of Its Time: Le Corbusier's Architecture in India" in Perspecta, Vol. 20, Cambridge: MIT Press, 1983. p. 93.

Indian National Congress and a leader and prototype of New India."¹⁰⁴ The mills and the businessmen supplied the financial base for the political movements and Mahatma Gandhi provided the leadership.

Ahmedabad became Mahatma Gandhi's home between 1915 and 1930, the years of India's struggle for freedom. This had a powerful consequence on the political development of the city. Enjoying the respect of both industry and labor, Gandhi was an effective arbitrator between the wealthy mill owners and the city's labor. Moreover, through his teachings, Gandhi disseminated those very ideals which made Ahmedabad a success: puritanism, frugality and the ethic of hard-work. After India's independence in 1947, Ahmedabad emerged as a unique blend of traditional values and modern technology. The city became one of the foremost cultural centers of India.

The textile-mill owners spent a considerable part of their fortune in the establishment of the city's new cultural and educational institutions. Ahmedabad has had a history of culturally-conscious clients. There are few cities which have more than three buildings by Le Corbusier, and Ahmedabad is one of them, with the Sanskar Museum, the Millowner's Association Building and the Sarabhai and Shodhan houses to its credit (Figures 5.1, 5.2, 5.3, 5.4). These commissions were initiated after Le Corbusier's first visit to the city. This attests to Ahmedabad's intellectual

¹⁰⁴ Gillion, Kenneth L. Ahmedabad: A Study in Indian Urban History, Berkeley: University of California Press, 1968. p. 153.

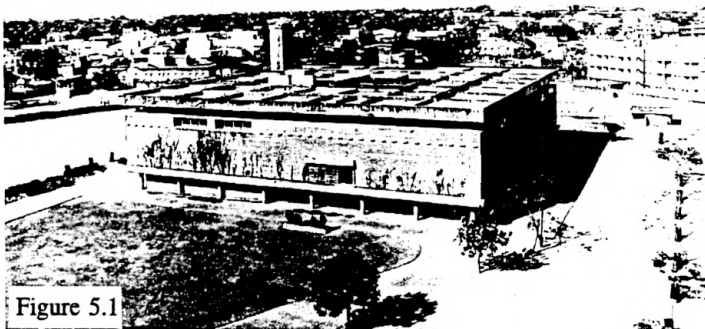


Figure 5.1



Figure 5.2

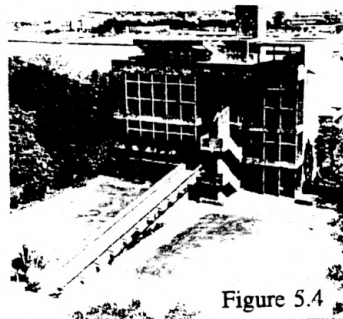


Figure 5.4

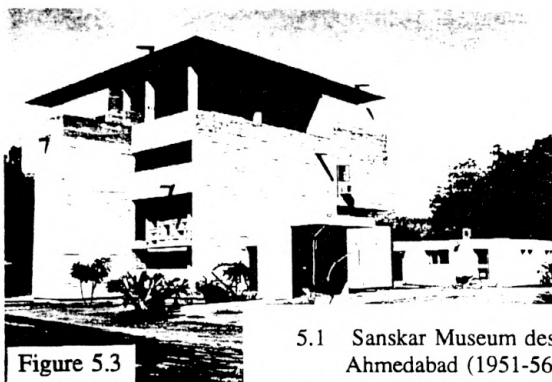


Figure 5.3

- 5.1 Sanskar Museum designed by Le Corbusier, Ahmedabad (1951-56).
- 5.2 Sarabhai House designed by Le Corbusier, Ahmedabad (1951-56).
- 5.3 Shodhan House designed by Le Corbusier, Ahmedabad (1951-56).
- 5.4 Millowner's Association Building by Le Corbusier, Ahmedabad (1951-56).

climate and economic prosperity unrivalled in India for a city of its size.

AHMEDABAD AND A REGIONALIST SCHOOL OF ARCHITECTURE

Ahmedabad was founded in 1411 AD by Sultan Ahmed Shah to replace his old Hindu capital of Ahilvad Patan with a new capital. He was responsible for extending the Mughal Sultanate in Gujarat. Ahmedabad was envisaged as an icon of Islamic Imperialism in the western provinces of India.¹⁰⁵ Under the rule of Ahmedshah, the city flourished and grew into a major commercial and industrial center, as merchants, weavers, artisans and skilled craftsmen settled down in the city in due course of time.

Ahmedshah built the fortified city of Ahmedabad with palaces, mosques, elaborate city gates, lakes, stepwells and other civic monuments. Stone was used as the main material for construction for the majority of the edifices by the local craftsmen. With the Mughal conquest over Ahmedabad and the region in 1572 AD, most of the traditional Gujarat stone workers drifted to northern India, attracted by better financial projects and works in the Mughal courts. As a result of this, the majority of the buildings were built by craftsmen trained elsewhere in the neighboring regions or returning craftsmen from north India with new skills. The essential styles of building therefore underwent a radical change. Despite of all this, the indigenous traditions persisted to give Gujarat Mughal

¹⁰⁵ Nanda, Vivek. "Urbanism, Tradition and Continuity in Ahmedabad," MIMAR, Architecture in Development. Vol 38, March 1991. p. 26.

vernacular a local accent.¹⁰⁶

Among the principal building materials used in Gujarat, carved stone and wood stand out because of its abundant use and richness of expression. Sandstone was used for the construction of the key buildings at that time. The Gujarat Sultanate absorbed the local style of the pre-Islamic Hindu and Jain architecture to successfully emerge as a regional Muslim style.¹⁰⁷ The constructions for the religious and monumental buildings were out of sandstone and followed a post and beam construction. The secular buildings, too, followed a post-and-beam construction method and were built out of wood.

The wood emerged as a popular and common material for construction in secular architecture because it provided a strong medium of visual expression in terms of carvings as well as structural stability. According to Indian historian Trivedi, "Compared to stone, wood because of its plasticity lent itself to a variety of adaptations in form and design and quickness of execution. There was severe competition between the stone and the wood carver to excel each other in the perfection of workmanship by introducing elaborate details and variety of ornamentation. The rivalry between the two was healthy, each imitating and accepting the best of art evolved by the other. It is for this reason there has been in Gujarat great kinship between wood and stone sculpture both of which have

¹⁰⁶ Burton-Page, John. "Mosques and Tombs" in Michell George and Shah Snehal. Ahmadabad, Bombay: Marg Publications, 1988. p. 108.

¹⁰⁷ Koch, Ebba. "Influence on Mughal Architecture" in Michell George and Shah Snehal. Ahmadabad, Bombay: Marg Publications, p. 169.

displayed unique similarity in design and form."¹⁰⁸ Both materials, stone and wood and their craftsmen had a strong vernacular school in Ahmedabad before the independence and advent of modernism in India.

There were many changes in the architecture and building construction in the region because of the advent of modernism and changes in technology. Architect and critic K.T. Ravindran identifies four streams of architecture which run parallel in India, and this holds for Gujarat too.¹⁰⁹ The work of the Western-trained and influenced architects still represents a tiny portion of the building activity. Parallel to the work of these architects, there are three other streams of building. First there are the works of the engineers and the untrained designers who produce the bulk of the city and small time architecture. Then there are the temples, mosques and other religious constructions, designed by the vastu-shilpis -- the architects of the traditional Indian system. The last group is the indigenous architecture built by the people of both town and country themselves or with the help of local masons because they have no access to trained architects.¹¹⁰

Apart from the trained architects, the urban villages, the lower and middle class city extensions in small town and cities, the buildings are designed by the engineer turned

¹⁰⁸ Trivedi, R.K. Wood Carvings of Gujarat, Census of India, 1961, Delhi: Govt. Press, 1965. p. 38.

¹⁰⁹ Ravindran, K. T. "Indigenous India," The Architectural Review, Vol. 182, No. 1086, August 1987. p. 61.

¹¹⁰ Ibid., p. 63.

architect or by the skilled mistris (masons) who offer cheap services to the people. Craft guilds and caste groups in India specialise in special type of building activities. These masons, artisans and carpenters have been handed over the craft and skills from their fathers and forefathers and so have over the years developed expertise in handling the materials of the region. This tradition forms a loosely identifiable school of artisans, masons, carpenters and so forth, in a particular region. Such a school can also be found in Gujarat.

After the independence of the country with the advent of modernism, there have been many technological changes in the building craft. There has been an employment of the new materials of construction especially reinforced concrete throughout the region. The local artisans and the masons have gained mastery over handling concrete and because of the plastic nature of concrete sometimes it is used to create all kinds of shapes including plain slabs, arches, vaults, domes and even ornamentation. When these skilled craftsmen work under the leadership and guidance of an architect, they come up with improvised and immaculate details in wood or other building construction materials. The example of the execution of the vaults with the fragments of china and terrazzo in the Gandhi Labor Institute is an example which illustrates this.

The idea for Doshi's School of Architecture for producing a new strain of trained architects having regional and traditional sensibilities in Ahmedabad was born in the early 1960s when the intellectual climate of Ahmedabad was encouraged by the planning and

growth of a number of educational institutions. The School of Architecture at Ahmedabad was supported by Kasturbhai Lalbhai and the Ahmedabad Education Society. It was designed in 1967 and for the curriculum there were few precedents to draw on. Initially for the curriculum of the School of Architecture, a mixture was put together that included basic design, climatic and technology studies and studio projects.

Intensive building activity in the city also stimulated the growth of the school. There was attracted foreign faculty and visiting lecturers like Louis Kahn who at that time was designing the I.I.M. in Ahmedabad. Foreigners like Bernard Kohn and Christopher Alexander also contributed their point of view in the making of the school. The outlook broadened with time to include planning and aspects of Indian culture and traditions.¹¹¹ Students were encouraged to think of design in a wider context with studies of the vernacular at one extreme and of the other international developments at the other.

Under Doshi's leadership, there was a regional resurgence in the School of Architecture. The practice and involvement with teaching activities on the part of architects like Doshi and Raje, who were the disciples of Corbusier and Kahn respectively, stimulated the growth of regional based architecture in the school and the city. Practising architects from other parts of the country, like Correa and Kanvinde, also taught in the school and were responsible for the design of some of the most important buildings in the city. Many

¹¹¹ Curtis, William J. R. Balkrishna Doshi: An Architecture for India, New York: Rizzoli, 1988. p. 22.

concerned graduates from this school have started working throughout the country and spread the message of place-creation. Overall, there has been a new quest for looking at modernity and tradition and technology in the present Indian context.

HISTORY OF THE CLIENTELE IN AHMEDABAD

Ahmedabad has had an illustrious history of a culturally conscious clientele. The majority of the rich Jain community in Ahmedabad had a long tradition of being philanthropists who contributed generously for the construction of temples and cultural institutions. Ahmedabad has a history of clients like Lalbhais and Sarabhais, who were interconnected Jain families. These families had made their wealth and fortune from the textile mills and wished to transform the "Manchester of India" into a city of culture.

Among the other key leaders of the new Ahmedabad four Jain textile millowners stand out: Kasturbhai Lalbhai, Chinubhai Chimanbhai, Surottam Hutheesingh and, Gautam Sarabhai.¹¹² Mr Lalbhai the wealthiest of the Ahmedabad industrialists spent a considerable part of the fortune in establishing and supporting the city's new cultural and educational institutions as the Ahmedabad Education Society and the Ahmedabad Textile Industry Research Association. The School of Architecture also sponsored by the Ahmedabad Education society was built in 1966 under the leadership of Doshi. Mr Chinubhai Chimanbhai was the city's mayor (1950-52) was instrumental for the

¹¹² Serenyi, Peter. "Timeless but of Its Time: Le Corbusier's Architecture in India" in Perspecta, Vol. 20, Cambridge: MIT Press, 1983. p. 93.

construction of the various schools, playgrounds, stadiums, libraries, and cultural centers. He was also largely responsible for inviting Le Corbusier to the city. Surottam Hutheesingh and Gautam Sarabhai were also responsible for the commissioning of the Millowners Association building and the residences designed by Corbusier in the city.¹¹³

Gandhi Memorial Museum, Gandhi Labor Institute, and their Clients

The members of the elite Jain community in Ahmedabad had earlier supported and devoted their energy in supporting the freedom movement and helping Gandhi for centering his activities in the Gandhi Ashram at Ahmedabad. The design of the Gandhi Memorial useum was also commissioned by one of the cultural trusts called Sabarmati Ashram trust run by Gandhian disciples and scholars.¹¹⁴ This memorial museum is designed to house archival material related to Mahatma Gandhi. The client in the form of the Sabarmati Ashram trust also influenced Correa's design of the museum. The simplicity in the design of the Gandhi Memorial Museum and the placement of the new building with respect to the old buildings have been a result of the client's suggestions. The Sabarmati Ashram trust also manages the upkeep and maintenance of the entire ashram complex in addition to the museum building.

On the other hand the Gandhi Labour Institute was commissioned by the Gujarat State

¹¹³ Serenyi, Peter. "Timeless but of Its Time: Le Corbusier's Architecture in India" in Perspecta, Vol. 20, Cambridge: MIT Press, 1983. p. 93.

¹¹⁴ Curtis, William J. R. Balkrishna Doshi: An Architecture for India, New York: Rizzoli, 1988. p. 14.

Government for training labor welfare officers. The State government has been responsible for giving numerous commissions of civic and urban projects like the Premabhai Hall and so forth in the past. It also invited Doshi to design the Gandhi Labor Institute and name it after Gandhi and the illustrious history of the laborers in Ahmedabad.¹¹⁵ The clients trusted Doshi fully for the transformation of the program brief into the existing building today. The design of the institute was supposed to capture the Gandhian spirit and the history of the laborers in the region. Both designs illustrate Frampton's idea that the idea of a committed client from the region can thus make a difference in the final outcome of the design .

AXIOM 3, THE TWO BUILDINGS AND THE REGION

Both buildings show that the limits of the region and its reality are crucial issues important to the constitution of the local form and region. Gujarat too because of the climate and local materials available has a particular style of building. The neighboring region of Gujarat, Rajasthan to the north has a highly developed and illustrious stone carving school and therefore the entire region has a different architectural style. Also, whereas the artisans and masons in Gujarat developed a synthesis of the Moghul and the Jain style, Rajasthan was predominantly Hindu. The traditional stone masons relied on the ancient religious scriptures and carving texts for the religious, civic and secular architecture of the region. The other neighboring region, Madhya Pradesh to the east of

¹¹⁵ Curtis, William J. R. Balkrishna Doshi: An Architecture for India, New York: Rizzoli, 1988. p. 136.

Gujarat is a forest area and the local material available there too is stone and wood. It is one of the under-developed states of India with comparatively less building activity. Towards the south of Gujarat is Maharashtra, of which Gujarat earlier was a part. As we move towards the southern areas of Gujarat, the climate also changes from hot dry to hot humid and so there is a change in the vernacular and the materials employed for that particular region. Thus architecturally speaking, Gujarat is bounded by some kind of limits which help in shaping an architecture of a particular kind. These limits are not restrictive but a direct influence of the climate of the region and the materials available in the region.

Frampton' idea of a school also finds an occurrence in the region. The region has a loosely identifiable regional school of building activity. It exists at the level of the trained architects as well as the masons and builders who play a major role in shaping the architecture of the entire region. The regional school of stone and wood carvers in Ahmedabad specialize in ornate carving of doors, windows and the designing of embellished columns and facades in building. Both buildings have a modernist vocabulary and do not show an approach where one could find an appropriate reflection of the workmanship by the artisans in the region. Both buildings show a modernist approach and avoid any ornate work in the facade, the doors and windows, and elements like the piers and columns. It is for this reason that there is no ornate work in the elements of the building. However, in many places there is evidence of abstracting details and using them in the building.



Figure 5.5

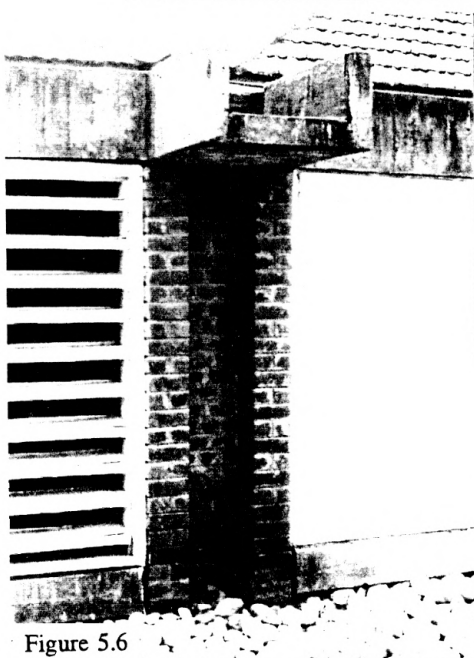


Figure 5.6



Figure 5.7

- 5.5 View of the skyline of the Gandhi Memorial Museum among the trees, relating to the Indian rustic images.
- 5.6 Detail of the louvered window, formation of gutter, exposed brickwork and the plastered surface, Gandhi Memorial Museum.
- 5.7 Detail of the door to the exhibition space, Gandhi Memorial Museum.



Figure 5.8

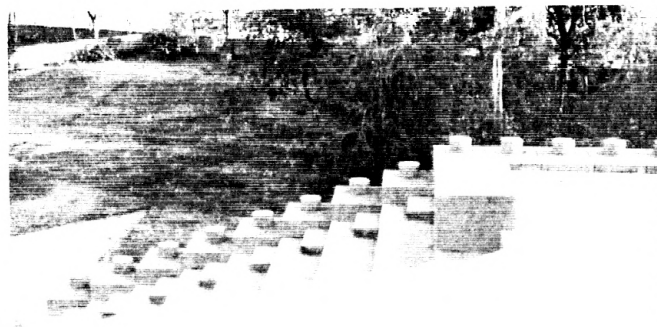


Figure 5.9

- 5.8 A view of the vaulting and the rhythm of the walls, Gandhi Labor Institute.
- 5.9 Details of the amphitheater and the flooring at the rear of the building, Gandhi Labor Institute.

Correa uses exposed brickwork and concrete in the building which was the modernist vocabulary at the time after the design of the buildings in exposed brickwork by Le Corbusier for example -- the Sanskar Museum and the Sarabhai House and Louis Kahn such as the Indian Institute of Management. However, the use of tiles for the roofing does show an effort of relating the skyline of the building to the rustic images of India (Figure 5.5). The simple design of the doors and windows in the building shows simplicity and good detailing on the part of the architect (Figure 5.6, 5.7). However besides this, there is no special effort by the architects to show how the local school of building construction and the artisans has affected in the execution of the work done. The design of Gandhi Memorial Museum has started a particular, regionalized and sensitive approach to the design of buildings. Since the building was built in the sixties, many other institutions have been designed by architects in Ahmedabad which try to capture a similar spirit and experience.

On the other hand, the Gandhi Labor Institute designed and executed in the late nineties, shows an approach towards the usage of particular kit of elements developed for the hot and dry climate of the region. These elements for example -- the use of plinths, making communal spaces with the edge of the building, use of terraces, the courtyards and so forth.

Doshi has tried to abstract the details found in the old traditional architecture of Ahmedabad and use them for the present context in the Gandhi Labor Institute. He has



Figure 5.10

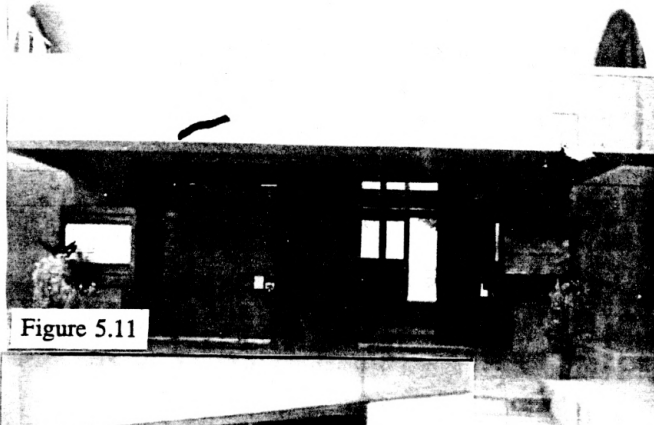


Figure 5.11

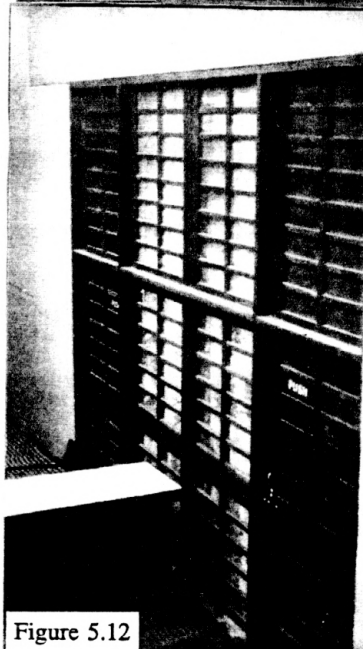


Figure 5.12

- 5.10 Abstraction of the details as seen in the corridor columns and capitals in Gandhi Labor Institute. The corridor opens into the court and is a source of light to the semi-open area between the two courts.
- 5.11 View of the sheltered entrance motif and simplicity in the entrance door, Gandhi Labor Institute.
- 5.12 Detail of a door in the building, Gandhi Labor Institute.

also avoided ornate details of any form, following the spirit of the modernist stream of thought. However, the use of vaults as well as the exterior finishing of the vaults with broken pieces of china and terrazzo finish shows an approach where the indigenous solutions of the local labor has been put into practice (Figure 5.8). Evidence of abstraction of ornate details is also found in the columns of the Gandhi Labor Institute. Doshi has used plain cylindrical columns with plain square capitals in the building (Figure 5.10). It evokes images of the square ornate capitals in the traditional vernacular architecture. Other evidence of innovative detailing is seen in the amphitheater, flooring done in the rear of the institute and doors of the building (Figure 5.9, 5.11, 5.12). However this suggests little use of the school of craft in the region.

As far as both buildings are concerned, with the use of elements and the kind of spaces these buildings make, they could be said to fall into a category of the regionalized school of the architecture of the region. Both buildings demonstrate how the two architects have used a particular kit of parts in the form of elements, disposition in plan and section as a response to the climate. This kit of parts for example -- the modular section with sloping roofs and courtyards in case of Correa's building and the use of vaults, terraces and a particular kind of staggered heavy massing with internalized courtyards in case of Doshi's building. The repetitions of these elements in the works of other architects shows their success in terms of a solution as well as an adaptability and also hints at the formation of a regional school of architecture.

Both buildings also had a culturally conscious clientele which encouraged Correa and Doshi to work on indigenous and innovative solutions in terms of design for a region. The faith of the clients and the freedom of designing also played a major role in shaping the buildings as they are. Thus both buildings epitomize the importance of the formation of a school of architecture and tradition in the region. This has also helped in propagation of particular ideology prevalent in the region.

AXIOM 4: CULTURE VERSUS NATURE -- TOPOGRAPHY, CLIMATE, LIGHT AND TECTONIC FORM

Having discussed Frampton's third axiom in regard to Correa and Doshi's buildings, I next consider the fourth axiom, which relates to the issue of culture versus nature and the regionalist form being responsive to the local topography, climate, light and tectonic form.

With regard to this fourth axiom, discussing the dialectic of culture and civilization, Frampton explains that "civilization has been primarily concerned with instrumental reason, while culture has addressed to the specifics of the expression."¹¹⁶ The civilization is engaged in the chain of means and ends. Frampton cites Hannah Arendt: "The 'in order to' has become the content of the 'for the sake of;' utility established as meaning generates meaningless."¹¹⁷ Addressing the issue of culture versus nature, Frampton addresses the world culture which is moving towards universality as far an attitude towards technology and optimization is concerned and is therefore against nature. Critical regionalism, on the other hand involves a more direct relationship with nature.

Frampton stresses that architecture needs to have a more direct and interactive relationship with nature, which not only includes topography and the site but all other elements like

¹¹⁶ Frampton, Kenneth. "Towards a Critical Regionalism: Six points for an Architecture of Resistance", in Foster, Hal (Ed.). The Anti-Aesthetic: Essays on Post-Modern Culture, Seattle, WA: Bay Press, 1983. p. 17.

¹¹⁷ Ibid., p. 17.

Arendt, Hannah, The Human Condition, Chicago: University of Chicago Press, 1958, p. 154.

light and climate as compared to other art forms. The first important point in regard to this axiom is the relationship of a building with its site and its topography. Topography here could be defined as the configuration of the surface of the site including the physical and natural features. A proper response to topography is therefore an essential factor for a building to be critically regional. Here Frampton critiques the bulldozing of an irregular topography into a flat site for rationalization of construction, which he attributes to modern culture, as the main cause for a condition of placelessness. He terms terracing the same site to receive the stepped form of a building as an act of "cultivating the site."¹¹⁸

The second important point in Frampton's discussion of his fourth axiom is the response to contingencies of climate and qualities of local light. Frampton writes "the sensitive modulation and incorporation of such factors must almost by definition be fundamentally opposed to the optimum use of universal technique".¹¹⁹ This is most clear in the case of light and climate control. The window is the point where these two natural forces are at play. Frampton remarks, "the fixed window and the remote controlled air-conditioning system is indicative of the domination by universal technique."¹²⁰

Frampton also explains that "Critical Regionalism tends to treat all openings as delicate

¹¹⁸ Frampton, Kenneth. "Towards a Critical Regionalism: Six points for an Architecture of Resistance", in Foster, Hal (Ed.). The Anti-Aesthetic: Essays on Post-Modern Culture, Seattle, WA: Bay Press, 1983. p. 26.

¹¹⁹ Ibid., p. 26.

¹²⁰ Ibid., p. 27.

transitional zones with a capacity to respond to the specific conditions imposed by the site, the climate and light."¹²¹ An examination of the fenestration therefore expresses the response to the climate and light and determines the character of the building and the region. He remarks, "Light is invariably understood as the primary agent by which the volume and tectonic element of the work are revealed. An articulate response to climatic conditions is a corollary to this."¹²²

The third important point for discussion in regard to Frampton's fourth axiom is the importance of tectonic form. The dictionary meaning of the term tectonic is "pertaining to building or construction in general; constructional, constructive used especially in reference to architecture and the kindred arts," but Frampton in his discussion relates it to the poetics of the construction in addition to the structural component of construction.¹²³ Greek in origin, the term "tectonic" derives from tekton, signifying carpenter. Frampton discusses the poetic connotation of the term tekton, that is when the carpenter becomes a poet. He remarks, "tectonic in the twentieth century cannot concern itself only with structural form;" instead a crucial role is played by the choice of the material, the detailing and even the joint between the two materials.¹²⁴ Frampton

¹²¹ Frampton, Kenneth. Modern Architecture : A Critical History, London: Thames and Hudson Ltd., 1985. p. 327.

¹²² Ibid., p. 327.

¹²³ Frampton discusses the idea of the tectonic in detail in "Rappel a l Ordre: The Case for the Tectonic" in Quantrill Malcolm, Webb, Bruce (Editors), Constancy and Change in Architecture, Texas: Texas A & M University Press, 1991. p. 5.

¹²⁴ Ibid., p. 17.

discusses the building's need to be expressive and architectonic, representing a structural poetic raised to an art form rather than a mere imagistic representation of a facade.

How does this axiom relate to my Indian condition and the two buildings by Correa and Doshi I have chosen to study? How are the two buildings responsive to the topography, climate, light and tectonic form? How does the notion of culture versus nature become explicit in the study of the two buildings? These are the questions, I now address with regard to the two buildings and the region.

TOPOGRAPHY AND THE GANDHI MEMORIAL MUSEUM

The Gandhi Memorial museum is located on a flat site on the western banks of the Sabarmati River. When the museum was built, the site was a small village called Sabarmati in the outskirts of the rapidly developing city of Ahmedabad. In the present times however, the site is just like a green island in the midst of the sporadic development throughout the city.

The topography of the museum site did not offer much in terms of undulations or natural slope. However the flat land had a slope towards the bank of the river. In the design of the building, Correa has shown a concern for the topography by placing the building in the front portion of the site. The museum falls towards the left hand side when entering the site from the main arterial road. The old Gandhi Ashram and the other buildings of the freedom fighters in the vicinity fall towards the right hand side. The main spine

dividing the plot leads the visitor to the steps at the edge of the river. The organization of the modules is random to create a meandering route through the building. This kind of a disaggregated organization is partly a reaction to the topography of the site, partly a reaction to the earlier existing structures (vernacular), which dot the old Gandhi Ashram and partly to the program of the museum which asked for the design of a museum which would grow in time.

CONTINGENCIES OF CLIMATE, LOCAL LIGHT AND TECTONIC FORM IN THE GANDHI MEMORIAL MUSEUM

As a response to climate, Correa uses the idea of breaking up the building program into a number of discrete but complementary spaces. He has used this concept in a number of projects including his first project, the Gandhi Memorial Museum. Correa suggests that "Warm climates abound in examples of this kind of poly-centric planning, from the circle of mud huts in an African chieftain's house to the marble pavilions of the Mughals. They seek to control climate by creating a nomadic life-style for the occupants, particular spaces being used at particular times of day."¹²⁵ Correa also hints at taking lessons in organization of the built form and the climate of a place from the village huts of Banni in the desert region of Rajasthan where the huts are clustered around a central courtyard.

Correa also takes lessons for the development of microclimate inside a building from the traditional architecture of the Moghuls at Agra fort. During the summer months, the dwellers here would stretch a velvet curtain across the courtyards in the early morning,

¹²⁵ Correa, Charles. "Form follows Climate", Architectural Record, July, 1980. p. 98.

trapping the cold night air in the lower levels of the rooms. In the evening the canopy was removed and the Emperor came out in the cold pavilions and the gardens of the terrace levels. In the cold, sunny winter, the pattern was reversed; the terrace gardens were used during the day and the courts and the lower levels during the night.¹²⁶ Correa has tried to use this idea, with the incorporation of a water-court inside the museum. The breeze blowing from the river enhances the cooling of the museum units when it flows over the water and helps to develop a microclimate inside the museum.

In response to designing for the climatic variations throughout the country, Correa started the development of a kit of parts with the result of his experiments in different projects: a section to facilitate convection currents, the internal zone of microclimate, the stepped terraces, the pergola roof. He has used this kit of parts in many of his projects. Talking about the need for climatic design he writes that, "Energy is another crucial parameter. In the West, architects have depended more and more on the mechanical engineer to control light and air within the building, but a country like India cannot afford to squander resources on this. This is actually an advantage, for it means, the building itself, through its very form must create the "control" which the user needs."¹²⁷

Correa employs the concept of modules for the design of the Gandhi Memorial Museum.

¹²⁶ Correa, Charles. "Form follows Climate", Architectural Record, July, 1980. p. 98.

¹²⁷ Correa Charles. "Transfers and Transformations," in Khan Hasan-uddin, Charles Correa, Singapore: Concept Media Pte. Ltd., 1987. p. 172.

The modules are simple in section with a pyramidal roof. The square module of six meters by six meters employs a roof which is covered with clay tiles. These clay tiles trap the air within the gap and the ceiling out of wood and help to reduce the excessive heat in the hot dry climate (Figures 5.15, 5.16). The roof is supported on thick exposed brick piers. The massive piers again besides helping in the orientation of the visitor and defining the module are barriers against the hot climate. The modules are organized around a water court which helps to generate a microclimate in the complex (Figure 5.18). The cool air because of the evaporation due the water body passes over the polished stone flooring in the semi-open modules (Figure 5.17). This creates a cool, soothing effect in the hot summer months inside the museum complex.

The sections through the Gandhi Memorial Museum generates a spectrum of conditions from the open-to-sky condition of the courts, the semi-open condition of the galleries and the lobbies to the closed box conditions where some of the exhibits are housed (Figures 5.17, 5.18). The courtyards are the nodes around which the various activities of the museum are split. The material used for the load bearing walls in the museum is brick. The exterior of the module in the museum takes the form of an exposed brickwork. The thick brick wall and the piers retain the coolness developed as a result of the microclimate generated by the water-body and help in creating a cool interior. They also help in low heat absorption in the exterior.

The fenestration in the building takes the form of wooden operable louvers.

- 5.13 Details of the clay tiles on the roof used as an effective method of insulation and heat reduction, Gandhi Memorial Museum.
- 5.14 Wooden structure on which purlins and the clay tiles are laid, Gandhi Memorial Museum.



Figure 5.13

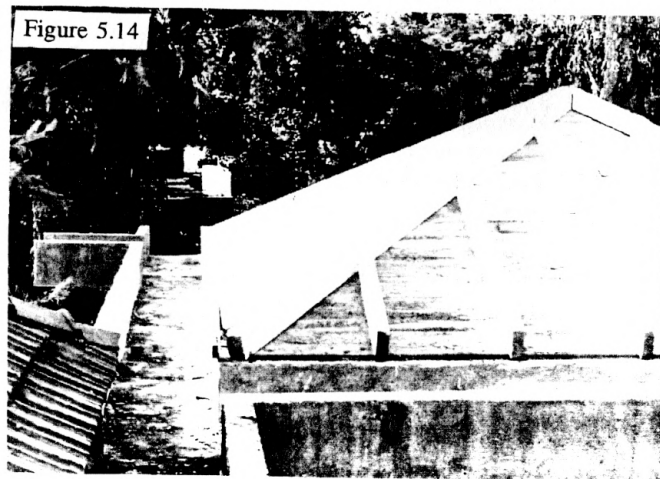


Figure 5.14



Figure 5.15



Figure 5.16

- 5.15 Modules arranged around the water court, Stone paving in the corridor space enhancing the cool effect as a result of the breeze from the courts in Gandhi Memorial Museum.
- 5.16 A view from the courts looking at the modules, Gandhi Memorial Museum.

Figure 5.17



5.17 Louvered windows bringing in controlled light into the exhibition area of the Gandhi Memorial Museum.



Figure 5.18

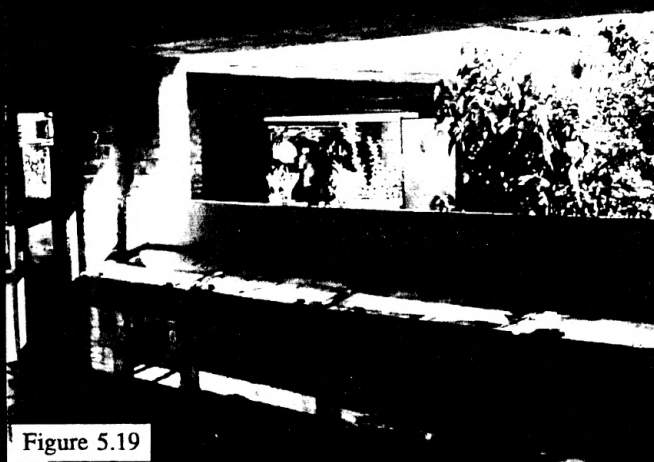


Figure 5.19

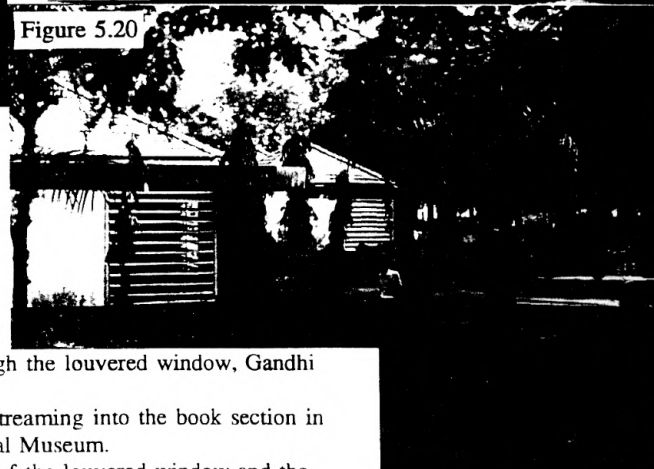


Figure 5.20

- 5.18 Play of light through the louvered window, Gandhi Memorial Museum.
- 5.19 The play of light streaming into the book section in the Gandhi Memorial Museum.
- 5.20 The external view of the louvered window and the modular units in the Gandhi Memorial Museum.



5.21 Play of light, the polished stone flooring and the I-shaped sections in the corridors of the Gandhi Memorial Museum.



5.21 Play of light, the polished stone floors, brick piers and the concrete beams in the open exhibit area of the Gandhi Memorial Museum.



5.22 Tectonics in the detailing of landscaped seating and exposed brickwork edge of the building.

The help to either cut off the light totally or bring controlled light into the interior in the museum (Figure 5.19). There is no glass used in the openings and this accentuates the play of light and the induced play of air movement and breeze from the river in the building (Figures 5.20, 5.21). The windows help to express the dynamics of light and climate control as explained by Frampton in the axiom. The design of the window is fundamentally opposed to air-conditioning or artificial modulation of climate as well as the optimum use of universal technique (Figure 5.19, 5.22).

Correa also used various landscape elements in the form of steps, plinths, seating spaces, trees with platforms, green spaces, foliage, as a response to the climate. The seating near the embankment edge also encourages the visitor to have a view of the vista of the river and enjoy the breeze emanating from the river.

Interesting light patterns are formed because of the sun streaming in through the courtyards in the semi-open lobbies beside the courtyards as well as by the shadows falling into the courtyards (Figures 5.23, 5.24). The light and shade reveal the joints and the textural quality of the brickwork in the walls and the polished stone in the floors (Figures 5.23, 5.24, 5.25). There is no ornamentation in the details of the facade as well as the design of the openings. The tectonic form is revealed in the simplicity of the design of the reinforced concrete channels and the detailing at the junction where the sloping roof meets the channel. The channels form an gutter between two longitudinal bays and these channels open out into the central courtyards disposing off the flowing rainwater

into the sunken courts (Figures 5.27, 5.28, 5.29, 5.31).

The I-shaped piers demarcate where one module meets the other. The enclosing walls of the courtyards are whitewashed with plaster and they contrast with the painted wooden louvered windows. The texture of the tiled roof contrasts dramatically with the plain reinforced concrete beams (Figure 5.30). The concrete beams also help to convey the horizontality and help to scale down the height of the section in the museum. They give the light expression to the roof. The brick walls and the piers again contrasting with the concrete channels contribute to the play of textures in the building. In the interior of the module, there is a play between the texture of the reinforced beam formed by the shuttering marks, the exposed brickwork piers and the pyramidal polished wooden ceiling (Figure 5.30).

The tectonics of building is also seen in the execution and the detailing of the flooring (Figures 5.30, 5.31, 5.32, 5.33). The edge of flooring is articulated by placing a band of cobble stones in a concrete channel all along the edge of the flooring of the semi-open spaces forming the edge of the light courts. In the monsoon, there is a play of rain in the courtyards, filling up the sunken courts and washing the edges of the courtyards and highlighting the details. Similarly, the white cobble stones in the sunken court contrast when seen against the green polished kotah-stone flooring. The simple building plan does not give a hint of the subtle detailing which exists in the spaces of the museum. The landscape of the entire complex using bricks and cobble-stone for paving, concrete and

5.23 Gutter detail and tectonics at the meeting of two modular units in Gandhi Memorial Museum.



Figure 5.23



Figure 5.25

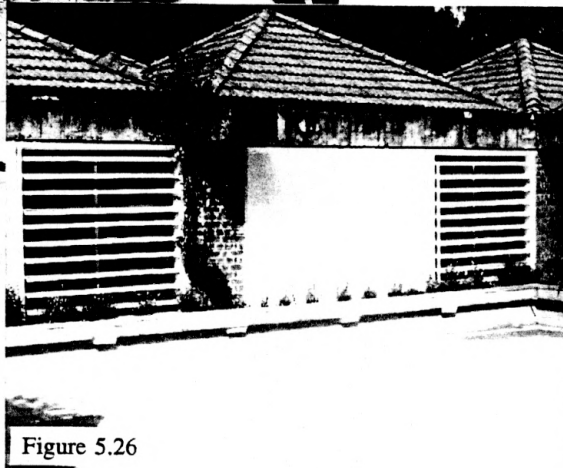


Figure 5.26

- 5.25 Gutter detail at the end condition of the modules designed so as to offer scope for future construction and addition of more units.
- 5.26 Tectonics revealed in the overall making of the unit. Contrast between the plastered wall, exposed brickwork, louvered window, tiled roofs, concrete gutter and the sunken water court.



Figure 5.27

Figure 5.29

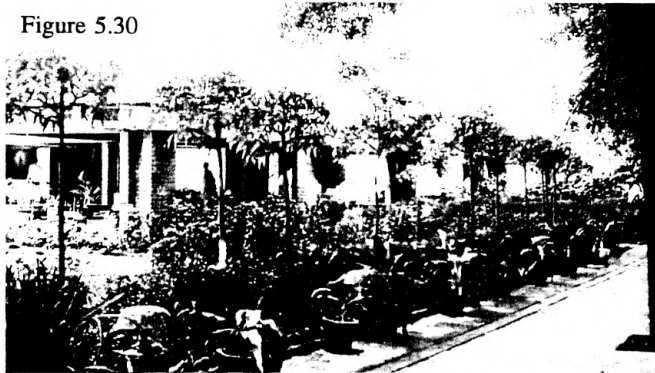


Figure 5.28



- 5.27 Architectonics of the wooden roofing with smooth horizontal bands and the meeting of concrete beam with vertical shuttering marks as seen in the roof of the module in the Gandhi Ashram.
- 5.28 The gutter formation and the conglomeration of roofs at Gandhi Memorial Museum.
- 5.29 The detail of the I-shaped exposed brick piers which demarcate the meeting of the two modules and the kotah stone flooring.

Figure 5.30



5.30 Articulation in flooring: Rough flooring in the paved path leading to the river edge.

5.31 The cobble stones flooring in the open sky courts.

Figure 5.31

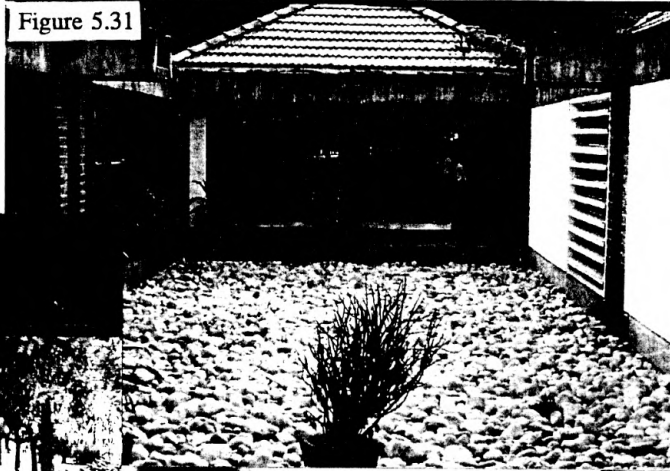


Figure 5.32



Figure 5.33



5.32 The transition in the texture of the flooring from smooth to rough as one gets out of the museum.

5.33 The raised plinth of the Gandhi Memorial Museum and the variation in flooring.

polished stone for the landscape seating all contribute to the richness in detailing throughout the building and the overall exemplification of architectonics in the building.

After discussing the aspects of the topography of the site, climate, local light and tectonic form in regard to Correa's Gandhi Memorial Museum, I now discuss the same with regard to Doshi's Gandhi Labor Institute.

TOPOGRAPHY AND THE GANDHI LABOR INSTITUTE

The Gandhi Labor Institute rests on a low lying site along a major traffic artery in the Western suburbs of Ahmedabad. Doshi sites the building back from the noisy road in an effort to create a quiet forecourt with paved areas, parking space, lawns and fountains to prepare the visitor for the experience of the building (Figure 5.34). The base of the building is gradually broadened towards the base. This is done through the use of inviting platforms, steps and plinths. The advantage of the topography of the low level of the site has been taken to take the main arrival of the visitor at an elevated platform with the provision of a lower entry level (Figure 5.35). This has also helped to express duality in the building.

The peculiar shape of the plot has governed to a large extent Doshi's planning of the institute complex. The placement of the blocks is done in such a way to fit the uneven perimeter of the site and define a precinct to the rear. The site has vaulted earth-hugging forms which contour a landscaped site replete with grassy enclaves terraces, steps and

water fountains. The institute uses elements like the vault, the diagonal axis, the central court, the raised plinth signifying importance, and a series of thresholds and links of varied scales embodying a disparate yet cohesive community.¹²⁸

CONTINGENCIES OF CLIMATE, LOCAL LIGHT AND TECTONIC FORM IN THE GANDHI LABOR INSTITUTE

Like Correa, Doshi has also used a climatic base for the organization of the complex. Doshi writes about using the lessons learned from the vernacular and the traditional Indian architecture in terms of the climate. Speaking of the contingencies for the climate Doshi questions, "What is Indian in life, architecture, philosophy, education etc. Are there any specific qualities of Indian architecture which differ from other countries? Shade -- courtyards, balconies, scale, proportions, use of skyline, overhangs, arcades. All our buildings henceforth must express shade."¹²⁹ Doshi considers the elements of shade to be the key for designing in an Indian hot and dry climate.

Doshi's has formulated his vocabulary from time-tested elements which he has used in previous projects in combinations, adjusting to the site, climate, program and technology. Designing for the hot arid climate, Doshi has organized the Gandhi Labor Institute around three courtyards: the first one, the entrance court leads to the teaching and discussion

¹²⁸ Doshi, Balkrishna. "Buildings and Projects." Architecture + Design, Vol. 5, No. 2, Jan.-Feb., 1989. p. 69.

¹²⁹ Doshi Balkrishna, "Selected Thoughts of the Architect" in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, New York: New York, 1988. p. 160.

areas, the central second one ministers as a place of interaction for the teachers and the students of the institute and the third one is generated by the dormitories. The architecture of building around courts and the use of shaded terraces are a response to the climate of the region.

Doshi uses the vaults and flat roofs which serve as terraces as the building's climatic response. The ferro-concrete vaults on the upper floors are finished with a mosaic of waste glazed tile fragments which help to reflect the heat and glare off. The clay fuses are jammed together and covered by hand with concrete. A broken layer of waste china is then embedded in the outer surface. This detail developed by Doshi has been quite successful for insulation in the hot dry climate. The white vaults also help to reflect the heat off the building (Figures 5.36, 5.37, 5.40). Doshi has used strong massing, thick walls, controlled size of apertures for the achieving a cool interior inside the building (Figures 5.39, 5.41). For the walls, Doshi has used washed terrazzo finishes, which provide a crisp light sensitive surface (Figure 5.38). The surface resembles cut stone and the windows are seated deep inside these vaults (Figure 5.34). The polished stone flooring in the institute enhances the cool effect of the interiors.

Doshi also uses landscape elements like fountains -- for example one at the entrance forecourt which helps to provide cool area for sitting near the entrance steps (Figure 5.41). The water body in the central courtyard as well as the circular water body near the amphitheater also serve as landscape elements as well elements for developing a

microclimate in the court and the vicinity of the amphitheater. He has also designed gardens and planted adequate foliage in the entire complex to create outdoor spaces in the institute complex where one can relax and rest in the hot and sultry summers.

The construction of the building shows a lot of thought process going into the detailing as a result of which the building and the elements have an architectonic quality. The expressive potential of space and form is the key to the use of elements of Doshi's vocabulary rather than the rigid notion of structural expression. The end walls of the vault are like a wrap-around skin that create a base from which the vaults spring such that the openings are a part of the wall and not a by product of the vault (Figure 5.38) The building speaks of many details which have a high level of resolution. Elements, like the wall, spring from ground rather than merely positioned on the earth, establishing a more effective rapport with the natural forces like the earth and sky. The way the vaults meet the wall, the way the wall resolves in the form of gutters, the way the wall makes an opening, the way the wall abuts to form hoods for the openings, the way a balcony forms out of a wall, the way the openings subdivide -- all reveal a poetic articulation and resolution of details (Figures 5.36, 5.37, 5.39, 5.40, 5.44).

The vaults become an overriding theme of articulation for the design of the Gandhi Labor Institute in the interiors as well as the exteriors. Doshi uses the rhythm of the vaults to work out the proportions of vertical undulations of the wall. The gutters and the channels form an interesting rhythm punctuating the walls surface of the walls. Doshi has used



Figure 5.34

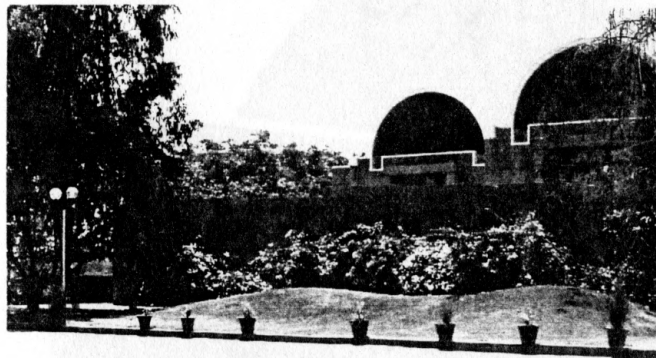
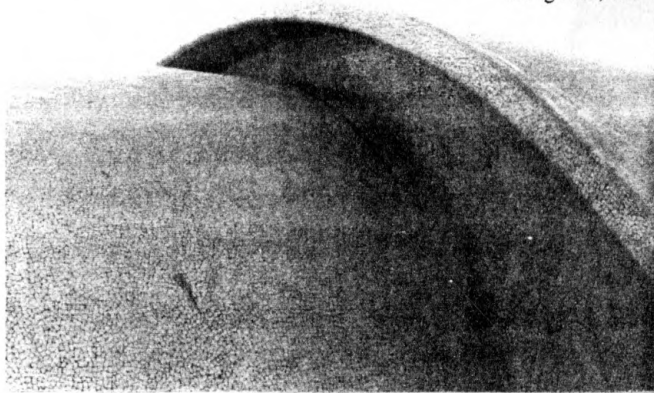


Figure 5.35

- 5.34 The inviting steps leading to the entrance area of the Gandhi Labor Institute.
- 5.35 The contrast between the grassy mounds, folding walls and the vaulted roofs in the front elevation of the Gandhi Labor institute

Figure 5.36



5.36 The articulation of the junction of two vaults, Gandhi Labor Institute.

5.37 The tectonics as revealed in the detailing of the vault, the gutter, the wall and the rich use of materials.

Figure 5.37

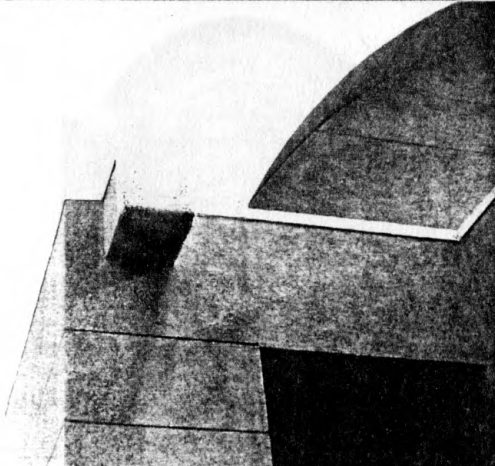


Figure 5.38

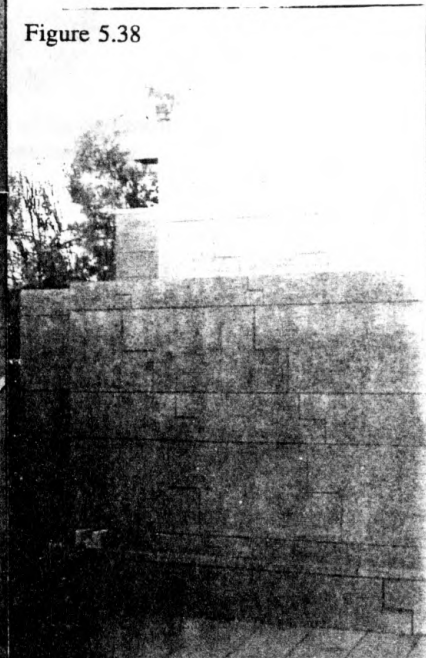
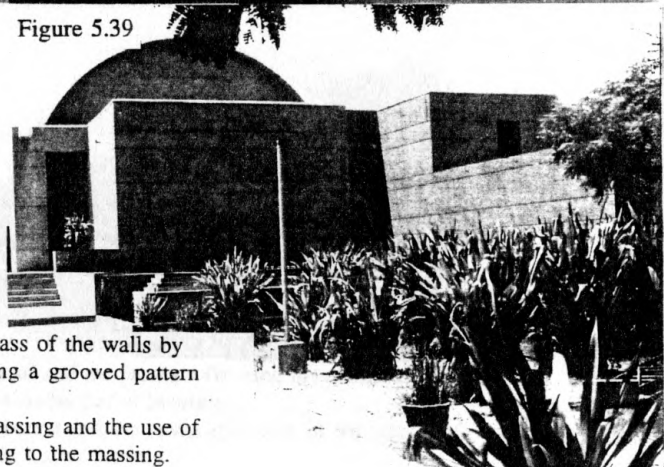


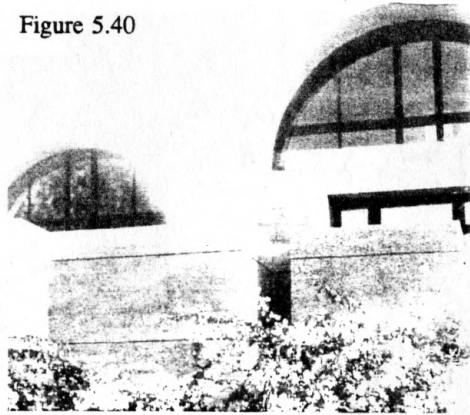
Figure 5.39



5.38 The articulation of the heavy mass of the walls by staggering it at the ends and using a grooved pattern in the terrazzo surface.

5.39 The articulation of the heavy massing and the use of vaults giving a protective covering to the massing.

Figure 5.40



5.40 The vaults softening up the silhouette of the roof form against the sky and the hooded windows inside the vaults.



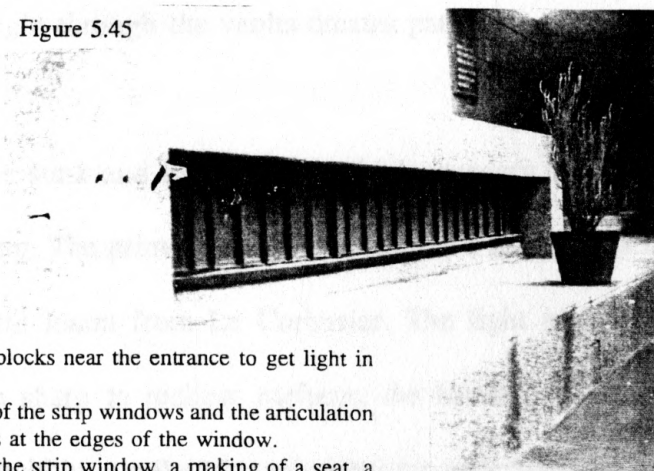
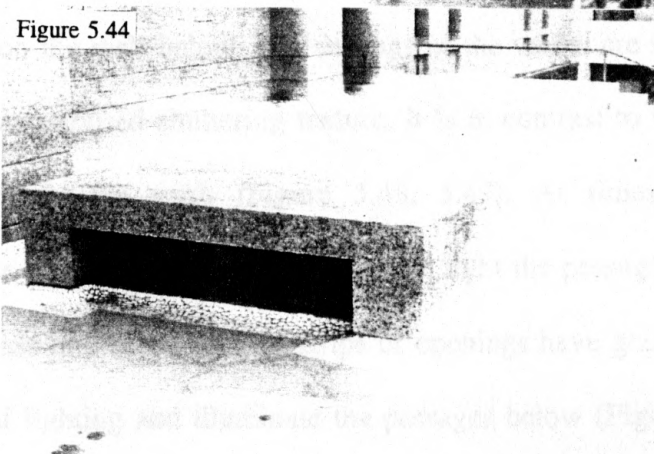
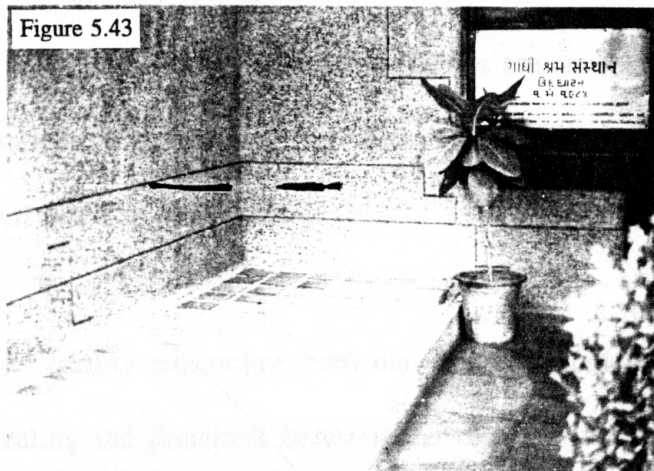
Figure 5.41



Figure 5.42

5.41 The water pool and the fountain flanking the entrance steps of the Gandhi Labor Institute.

5.42 The amphitheater and the landscaped area in the rear of the Gandhi Labor Institute.



- 5.43 Use of glass blocks near the entrance to get light in the basement.
- 5.44 The detailing of the strip windows and the articulation of floor finishes at the edges of the window.
- 5.45 The detail of the strip window, a making of a seat, a stepped level and the articulation of the floor levels.

vaults in combination with parallel walls or unevenly placed piers, and this has generated a rich rhythm in interiors. Light is filtered in at the ends, and the curved soffits create a sheltered and psychologically restful atmosphere. On occasions, the vaults are used over passageways, in which case their directional qualities are accentuated. A vault -- being an inherently symmetrical and concentrated form -- is particularly appropriate to reinforce the most important place in the building.

At places the light quality emanating from the vaults is incident on the walls making patterns and revealing the junctions between the roof and the wall or the articulated flooring pattern on the wall below. The ceilings of the vaults are finished with exposed concrete and show exposed shuttering texture. It is in contrast to the white plastered or painted walls below the vault (Figure 5.48, 5.49). At times the vaults running longitudinally are broken and used as skylights to light the passages (Figure 5.46, 5.50). In some areas glass like the basement, strips of openings have glass blocks to achieve a particular kind of lighting and illuminate the passages below (Figures 5.43, 5.44, 5.45). The controlled light through the vaults creates patterns on the polished stone flooring.

The windows are sunk and built into the thick masonry walls for the controlled light within the building. The primordial sense of light and its nuances is one of the important lessons that Doshi learnt from Le Corbusier. The light broken into shadow from the outside from the sharp to mellow surfaces, the bathing of the inner surfaces in light creating a world within -- reflect Doshi's intuitive understanding of the nature of light in

the Indian landscape.¹³⁰

Doshi also speaks about the duality of the elements in a design which also contributes to the tectonics of a building. He takes lessons and inspiration from traditional analogies. He calls these 'half-statements' and remarks, "'half- statements' are also observed in village houses. The territorialities and the boundaries of a mud house at Sum in the Rajasthan desert are only suggestive. There is a gate but no shutter. It is a symbolic gesture of demarcating the territory and dignifying the place of arrival in a desert home. In an example from Jaisalmer, this amorphous duality in architectural; design is expressed through a double structural system. Here the external wall is a thin skin, like a curtain wall, and the detached columns express the supporting system. The notion of layers is characteristic of Indian planning."¹³¹

This notion is revealed in the disposition of various elements of the Gandhi Labor Institute. On first sight the building looks like it is a load-bearing structure, but the columns in the building later on reveal that it is a load-bearing as well as a framed structure. The building being raised on a plinth and creating the play of two levels creates a duality in the building. The exterior is treated like a rough paradisiacal garden while the interior is treated like a cool shaded retreat (Figure 5.51). The circular columns have a

¹³⁰ Varkey, Kurula. "Themes and Ideas" Architecture + Design, Vol. 5, No. 2, Jan.-Feb., 1989. p. 33.

¹³¹ Doshi, Balkrishna. "Between Notion and Reality," Architecture + Design, Vol. 5, No. 2, Jan.-Feb., 1989. p. 23.

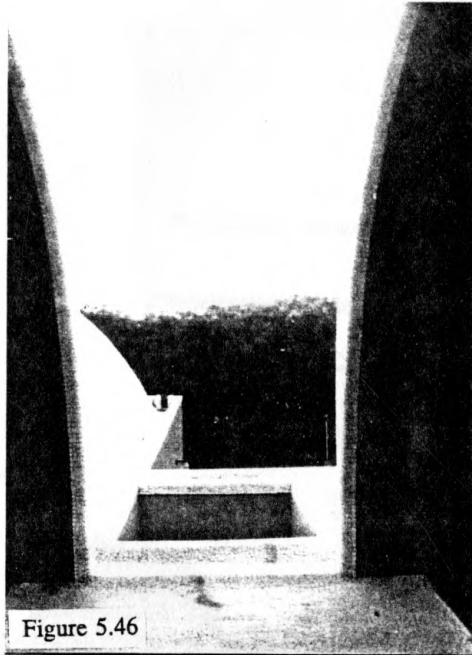


Figure 5.46

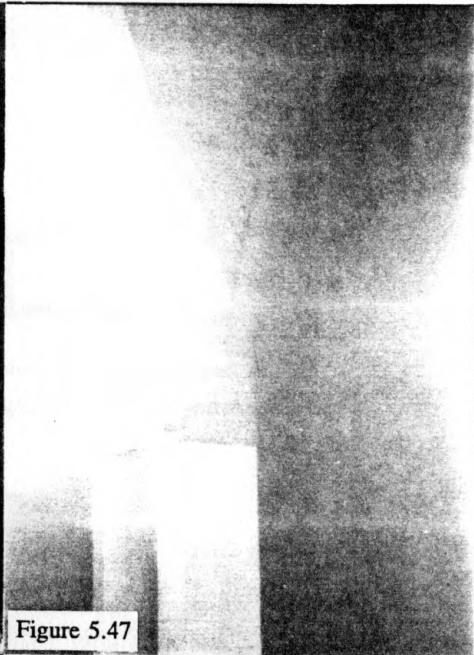


Figure 5.47



Figure 5.48

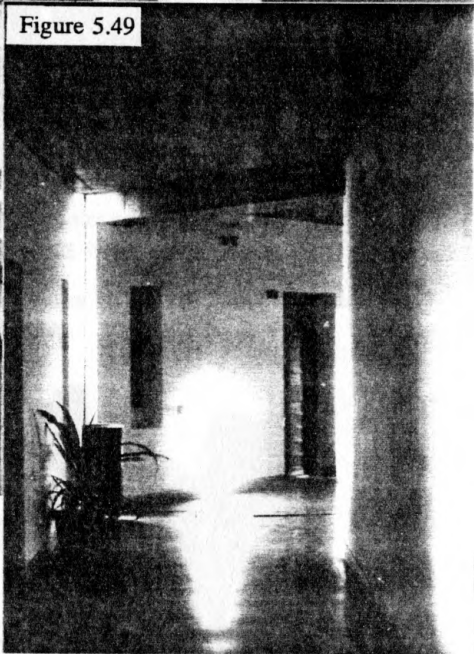


Figure 5.49

- 5.46 The breaking of the vaults to give light into the interior of the building and the detail of the junction between the vaults.
- 5.47 The light coming in from the vaults into the building and falling on the bright surface of the vaults.
- 5.48 The stair leading to the upper level of the Gandhi Labor Institute and the vault at the opposite end.
- 5.49 The light coming in from the vertical strip openings of the building.

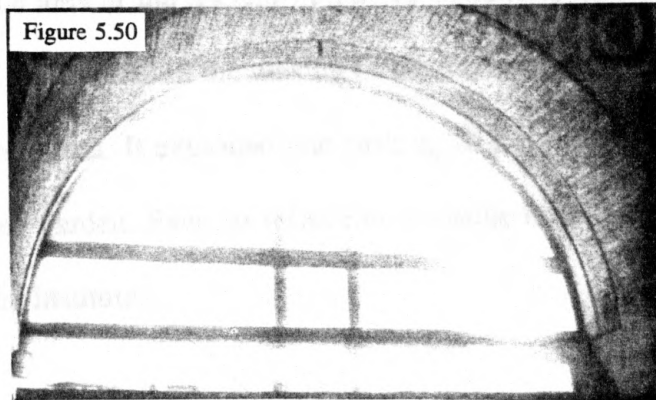
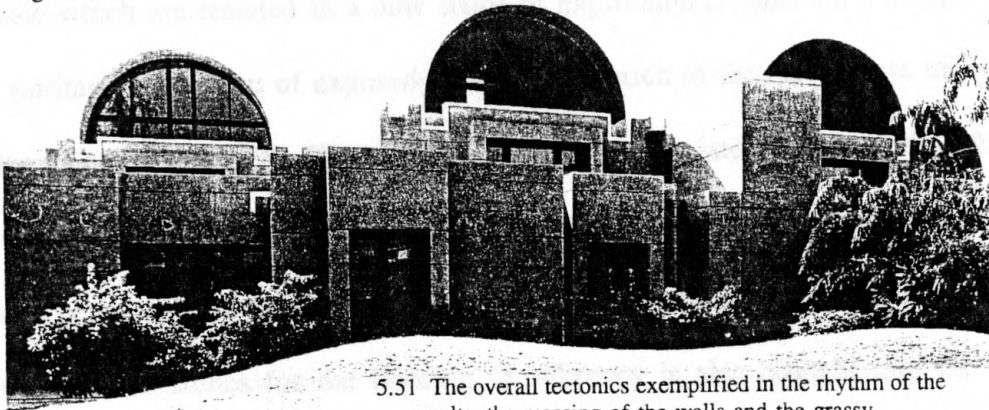


Figure 5.50

5.50 The detail of the subdivisions in the vault and the play of light.

Figure 5.51



5.51 The overall tectonics exemplified in the rhythm of the vaults, the massing of the walls and the grassy mounds.

5.52 The articulation of the forms making up the rear area of the dormitories.

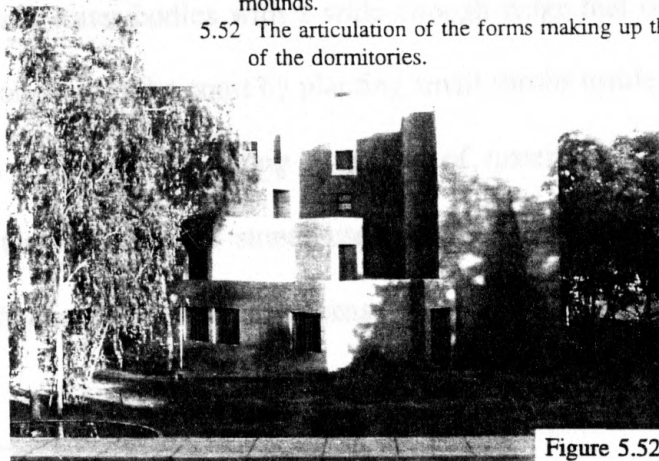


Figure 5.52

square capital which then meets the beam and becomes a part of the framed portal. This portal is used as a welcoming gesture into the building. The articulated portal like framing is derived from the idea of the ancient traditional entrance portals is repeated in various places. The motif is exploited in the making of the wall and the windows are setback into the wall inside the portal. It exploited into making of a colonnade when one enters into the rear landscaped garden. Even its reflection is visible in the water-bodies in the court and the rear of the institute.

Doshi uses a range of materials, old and new, aggregate, screed and plaster and china mosaic which are restated in a new scope of expression (Figure 5.37, 5.38, 5.44, 5.45). His puritanical restraint of exposed concrete and brick of the early phase moves on to a wider range of the palette. The colors he employs in his later work including the Gandhi Labor Institute move away from the primary to the richer, more vibrant spread of earthy shades better attuned to the Indian light.¹³² Doshi has created patterns using yellow and green polished stones for the flooring. A vibrancy is also brought into the courts by incorporating small water-bodies with a wide enough ledge that one could sit on them. Nature is also brought into the court by planting small shrubs inside the court. The paving of the courts is articulated by using a variety of materials. There is a play of red sandstones and the white cobble stones used for the detailing in the paving inside the court and the other outside landscaped areas.

¹³² Varkey, Kurula. "Themes and Ideas" Architecture + Design, Vol. 5, No. 2, Jan.-Feb., 1989. p. 33.

AXIOM 4 AND THE TWO BUILDINGS

Both Correa and Doshi show climatic concerns at the root of their design. They take lessons from the vernacular and the traditional architecture as far as incorporating climatic design features. All this is made evident through the design of the main structure, the skin of the building surface modulations, the use of courts, terraces within and outside the building. Local material and its use also serve the purpose of climate.

Both Correa and Doshi do not give way to the domination of universal technology; rather they try to relate the outer walls of their building and respond according to the local contingencies of climate, light and tectonic form. Correa uses windows without glass to illustrate his point of view. He writes: "for the last decade or two; that is much to say when he handed over so much of his legitimate responsibilities to his mechanical engineers. It calls to mind Louis Sullivan's caveat, that a building is like a sentence: it cannot consist exclusively of adjectives and explanation signs. It must have a syntax. Climate -- that perennial spring board of architectural invention could well supply the deep structure we need."¹³³

Correa shows deep climatic concern visible in the disposition of the spaces in plan and section. The elements of nature in the form of water bodies and foliage are incorporated into the design of the complex and integrated with the built form. The local materials

¹³³ Charles Correa, "Form follows Climate", Architectural Record, July, 1980. p. 98.

used in the design of the building also enhance its regional character. The Gandhi Labor institute abounds in good and simple detailing and this also contributes to the tectonics.

Doshi also shows concern of resisting against the domination of universal technology by using a variety of materials and the workmanship of the local labor available at the place. He reacts to the existing conditions of a low-level site by designing entries at two levels of the building. Doshi organizes his building around courtyards with shrubs and water bodies. This is one way in which he tries to get nature into his building. The landscape around the building also suggests his concern for nature.

Doshi responds to the climate by designing and organizing his building around courtyards in addition to heavy massing. His relative disposition of form elements, the organization of space in layers, the controlled interiors and the transitions to the outside, the interruption of the skyline through varying silhouettes that break the sun into shadow and open the roof to the hot arid climates all reflect his concern for the design of the hot arid climate.

The building masses integrate the roof, rainwater, cascades, water-bodies, natural landscapes, gardens and foliage. The building's mass is broken by the numerous articulated details in the form of varying textures, surface modulations and so forth. The building shows fenestration which are appropriate for the climate of the region. The building has air-conditioning but, at the same time, the spaces inside the buildings have

fenestration for cross ventilation as well as light. There play of light is revealed in the interior as well as the exterior. The casting of shadows, breaking of mass and rhythms in the form as well as structure is also another mode of tectonic expression (Figure 5.51, 5.52). Besides this Doshi's aesthetic considerations have also taken into account the local symbolism, context, associations and so forth and integrated them into the building.

Both buildings, the Gandhi Memorial Museum and the Gandhi Labor Institute show a site-specific response. They also consider the use of the local materials and a good response to the climate of the region in the form of design decisions. A play of light lingers through the openings when one moves through both the buildings. Both buildings also show innovative detailing contributing to the tectonics of the building. Thus one can say that both buildings show the dialectic of culture versus nature. They illustrate Frampton's idea of a building resisting against the globalization of building with standardization and optimization and building with an appropriate response to the local light, climate and materials.

After having discussed axioms 3 and 4, the next chapter discusses the last two axioms dealing with the idea of visual versus tactile and space versus place.

¹⁴ Frampton, Kenneth, "Ten Points on an Architecture of Regionalism: A Provocative Polemic" in Speck, Lawrence (Ed.) "New Regionalism", *Centre: A Journal of Architecture in America*, Vol. 3, N.Y.: Rizzoli, 1984, p. 27.

CHAPTER 6:

VISUAL VERSUS TACTILE AND SPACE VERSUS PLACE

Having discussed Frampton's first four axioms in regard to regional and environmental context, I now consider the last two axioms which deal with issues of visual versus tactile and space versus place. These two axioms are grouped together for discussion because they illustrate implicit themes in an a good architectural design. The importance of the tactile presence and the making of a place as against a space make up the most important issues as pointed out by Frampton in the making of a building. First, I consider the fifth axiom, which relates to the issue of the opposition between the visual and tactile in regard to the two buildings.

AXIOM 5: VISUAL / TACTILE

In regard to this axiom, Frampton points out that besides being visually perceptible, a building is open to many other levels of perception. He remarks, "Architecture possesses a marked capacity for being experienced by the sensorium."¹³⁴ The materials and the surfaces of a building other than being important in the visual experience of a building also form a significant part of the overall perception of architecture. Both dimensions are important in a good design. However, the experience plays a very important role in the conveying the importance of the tactile dimension in a building and this experience cannot be reduced to representation.

¹³⁴ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic" in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal of Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. p. 27.

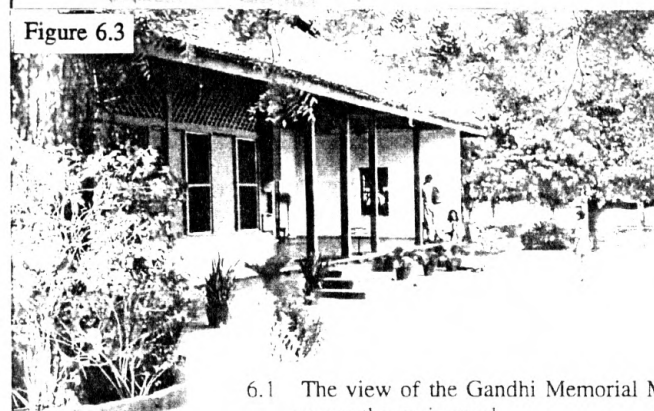
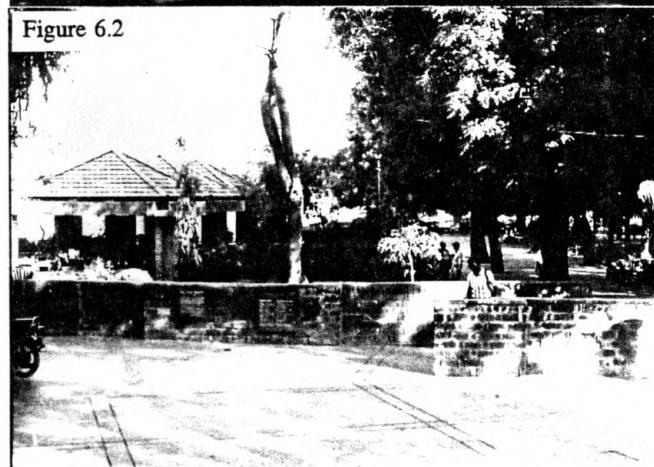
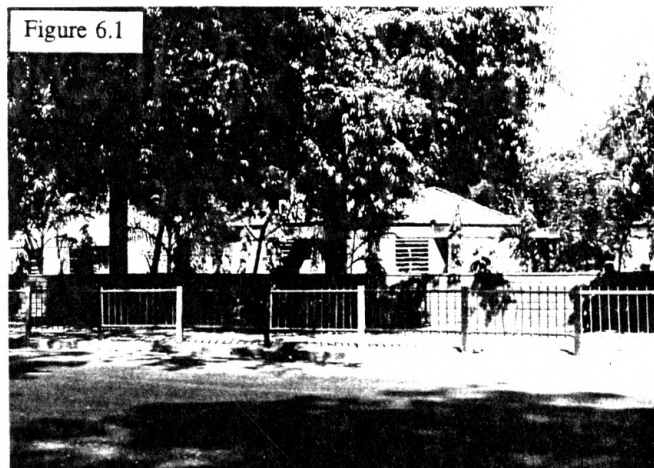
Frampton suggests that the presence of the tactile dimension in an architectural form also suggests a potential strategy for resisting the domination of universal technology. The air movement through a building, the acoustics, ambient temperature and smell; all are important factors which affect the experience of a space. The building can be designed in such a way that the tactile experiences could form an integral part. Frampton suggests that there should be an equal stress on the balance between both the poles, the critique of the visual in terms of the tactile and vice-versa in an attempt to complement on our normative visual experience.

How does Frampton's critique of the visual versus the tactile relate to the two buildings by Doshi and Correa? What design decisions have been taken in the two buildings that the building becomes not only visually appealing but also tactile? What are the tactile experiences which one encounters when one moves through the building. The sections which follow deal with these questions.

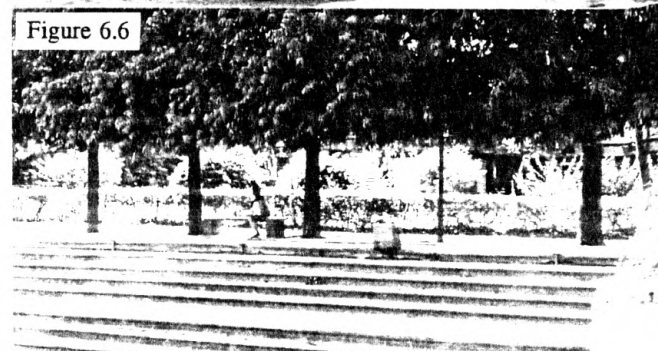
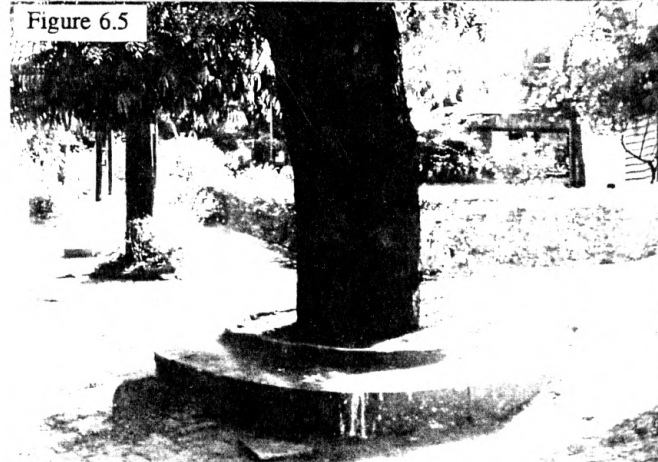
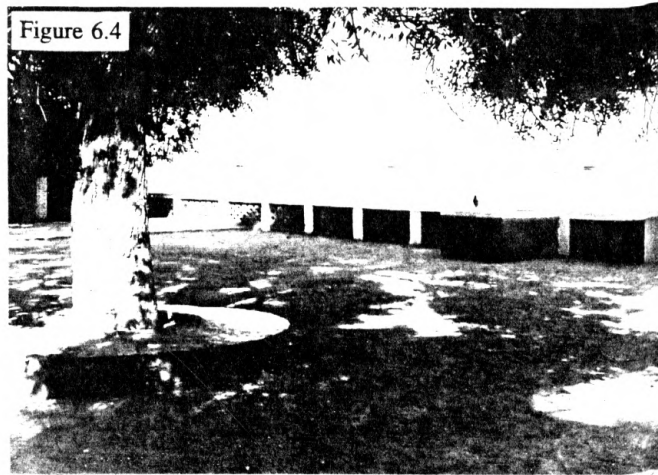
GANDHI MEMORIAL MUSEUM AND THE CRITIQUE OF VISUAL VERSUS TACTILE

In the preceding chapters in my discussion of Correa's museum, I have already considered materials, discussed the materials, since surfaces are part of the overall perception of the building. The psychological and tactile dimensions of a architecture are important features which help one to enrich our experience through a building. In addition to the formal aspect, Correa places importance on the tactile component in the building.

One approaches the museum from a dusty, busy traffic road of the city. The whole complex is like a green island and immediately one heaves a sigh of relief in an expectancy of what is to come (Figures 6.1, 6.2). The entrance is slightly set back to form a small forecourt where often, groups of children and visitors get down from a bus to pay homage by a tour through the Museum and the old Gandhi Ashram (Figure 6.2). The conglomeration of roofs with plenty of trees offers the idea of a rustic environment. The cool breeze generated by the vast expanse of the river bed also offers an immediate change in environment (Figures 6.4, 6.9). One takes up the main path and can straight to the river edge, turn left to go to the museum or takes the right turn beyond and go to see the old Gandhi Ashram and the huts of the old freedom fighters (Figures 6.7, 6.12). The museum complex offers a range of choices in terms of the path one can choose to experience the building. Because of the emphasis on self-exploration and the meandering route analogous to a village layout, one experiences a varied hierarchial spatial sequences throughout the complex. One goes from the noisy road to the structured varied spaces in the museum to the meandering path to the old Gandhi Ashram to the river banks and then all around the museum (Figures 6.4, 6.5, 6.7). The museum building has varying sections ranging from a closed box to the semi-open lobby spaces and the open to sky courts (Figure 6.10). The landscape has a promenade of trees along the main axis leading to river edge (Figure 6.6). The organization is interspersed with small rest spaces in the form of a platform under a tree where one can sit and enjoy the play of nature (Figures 6.7, 6.10).



- 6.1 The view of the Gandhi Memorial Museum from across the main road.
- 6.2 The entrance area to the Gandhi Memorial Museum, the making of domains and the idea of a green island.
- 6.3 The Gandhi Ashram located towards the river edge.



- 6.4 The embankment of the river and making of landscaped areas for seating and contemplation.
- 6.5 The plinths for sitting around the trees in the complex.
- 6.6 The steps leading towards the river and the shady trees in the rear.

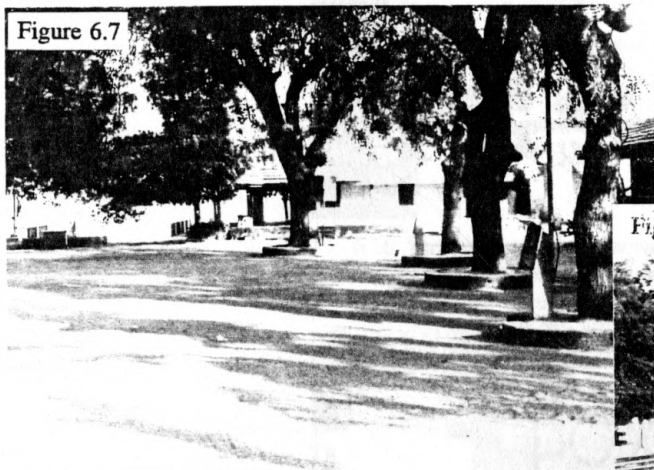


Figure 6.7

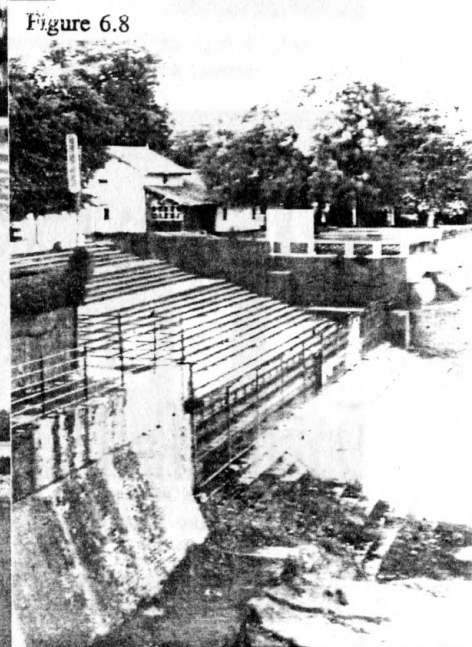


Figure 6.8



Figure 6.9

- 6.7 The view of the expansive spaces for community gathering in the Gandhi Ashram and the plinths around the trees.
- 6.8 The levels of the embankment and the steps leading towards the river Sabarmati.
- 6.9 The view across the vast expanse of the river at the end of the site.

Figure 6.10



6.10 The contemplating environment and the sacred nature of spaces as seen in the modules of the Gandhi Memorial Museum.

Figure 6.11



6.11 The making of domains and zones of enclosures, private to semi private to the open as seen in the Gandhi Ashram.

6.12 The making of the variety of domains and the participation with nature in the Gandhi Ashram.



It is the climatic base taken by Correa's building that reveals the tactile aspect of the building and the various elements. The building being organized around courts helps to get the tactile elements like the wind and the rain and the visual elements in the form of sky into the building. The building uses a combination of both plastered and exposed brickwork finishes. The materiality of the finishes also reveals the visual as well as the tactile dimension.

In the modules which Correa has employed in the design of the Gandhi Labor Institute, he tries to make a humanly-scaled section. The nature of the openings which look into the courtyard have a horizontality and thus encourage movement. The windows employed in the module units, either facing the courtyard or the external environment do not have glass in them. They take the form of operable wooden louvers. The site has an advantage of being next to the river bank and this helps in getting the breeze into the building. The water courts help to create a microclimate in the building. The other courts have vegetation in the form of flowering shrubs (Figures 5.30, 5.31). When the flowers bloom they help in circulation of a sweet aroma around the building. One gets a wet fragrant aroma which permeates through the entire building. The museum has mango fruit trees towards the rear of the site, facing the river bank (Figures 6.5, 6.6). In the summers, during the mango season, a sweet aroma of the fruit spreads throughout the museum.

Correa places much importance on the tactile dimension in addition to the visual. In one of his lectures, he remarks that, "In a third world country like India, we simply cannot

afford to squander the kind of energy required to construct and air-condition a glass tower in a tropical climate. The building must through its very form create the controls that the user needs. Such a response necessitates much more than just the sun angles and louvers; its needs must involve the section, the plan, the shape in short, the whole building. To cross a desert and enter a house around a courtyard is a pleasure beyond photogenic image making; it is the quality of light; it is the ambience of the moving air that forms the essence of our experience."¹³⁵

In regard to surfaces, Correa has used polished kotah stone flooring in the museum. The cool breeze from the courts passes over the flooring and generates a cool soothing effect. In India, people take their shoes off before walking into a sacred space. In a Western context this is similar to taking the hat off as a mark of reverence to someone. Walking barefoot into a temple or a shrine has implied sacred and psychological connotations. The people are supposed to leave the impurities out before they enter into a temple. For this, they wash their hands and feet and then step into the temple. Mahatma Gandhi commands the reverence of a saint and the old Gandhi Ashram has the veneration of a temple. All the people are supposed to take their shoes when they go into the Ashram. Sometimes because of this the visitors go through the entire complex without their shoes on. This enables the visitor to get in contact with the floor of nature.

¹³⁵ Murray, Peter presenting a profile of the winner of the RIBA Gold Medal for Architecture, 1984 quotes Correa from the Cubitt Lecture. Murray Peter. "Charles Correa," The RIBA Journal, February, 1984, p. 20.

The flooring of the old Gandhi Ashram is stone. Walking over the cold flooring, one starts remembering the austere and simple life which Mahatma led. It also reminds the visitor of the hard struggle for Independence led by Mahatma Gandhi. When one walks barefoot out of the Ashram, one experiences the tactile presence of the different kinds of flooring -- the chipped stone flooring, the brick paving, areas with sand and so forth, in the landscape of the museum complex.

Most people also remove their shoes in the museum building. Although the museum does not have the sacrality of the old Gandhi Ashram, people like to consider it sacred because of all the memories and exhibits of Gandhi displayed in the museum. The visitors sit on the seats in the pause spaces or the floor itself which is raised from the ground level and like to contemplate and spend some time thinking about Gandhi and the country's hard won struggle of Independence. People often sit on the floor with their feet inside the sunken water-court. One can feel the smooth texture of the cobble stones in the water below in the pool.

GANDHI LABOR INSTITUTE AND THE IDEA OF VISUAL VERSUS TACTILE

In the rainy seasons, one can sit in the lobby spaces and enjoy the rain falling in the court. The rainwater drains down the sloping roofs into the channels and the gutters and falls into the courts. Sometimes, because of the wind, the draft of the tingling rainwater can be felt when one is standing or sitting on the edge of the courtyard. The sound of the rainwater can also be a pleasant background acoustics. The atmosphere inside the museum is such that the people do not talk loudly when inside the building. This is because of the

sacred and contemplating environment generated because of association with Mahatma Gandhi.

When one visits the museum early the morning, he or she is delighted by the chirping sounds of the birds on the trees. This is present throughout the day, but is sometimes suppressed because of the din, laughter and frolics of the children who come on school tours and stream the museum complex. It is a common sight to see people sitting alone, or in groups contemplating, taking their time to experience the building. It is also a common sight to see the people from the villages and the cities in the complex. In a way, it can be said that the building removes the barriers between the simple village soul and the sophisticated and urbanized individual.

Having considered the tactile dimension of Correa's Gandhi Memorial Museum, I now discuss the idea of tactile as exhibited by the Gandhi Labor Institute.

GANDHI LABOR INSTITUTE AND THE IDEA OF VISUAL VERSUS TACTILE

Like Correa's building, the Gandhi Labor Institute is also sited on a busy, main traffic artery located on the outskirts of the city. The building is not monumental in scale and does not make an impact when one is passing. In fact, it often goes unnoticed because the attention is drawn by the ugly monolithic concrete towers blighting the landscape. Since the building has a vacant plot on its left hand side at the moment, there is no comparison or contextual reference that the building has to make. On the right hand side

Figure 6.13

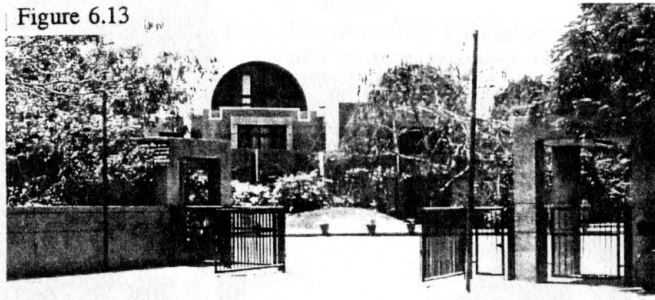
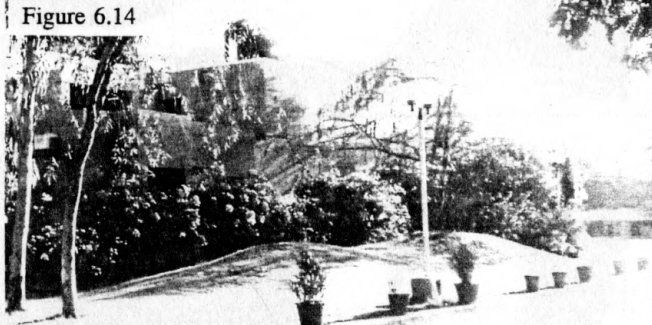


Figure 6.14



- 6.13 A sequence towards the main entrance of the Gandhi Labor Institute: Before the diagonal entry into the building.

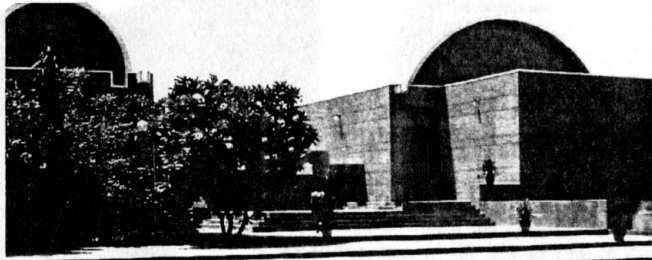


Figure 6.15

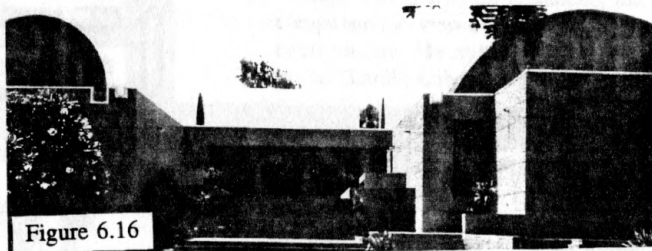


Figure 6.16

- 6.14 Moving across the grassy mounds towards the main entrance.
- 6.15 A shifting and unfolding of volumes as one approaches the stairs
- 6.16 The welcoming entry similar to the wedge into the building.



6.17 The water pools increasing the tactile dimension of the building.

6.18 The mysterious light quality emanating from the vaults in the passageways of the Institute.

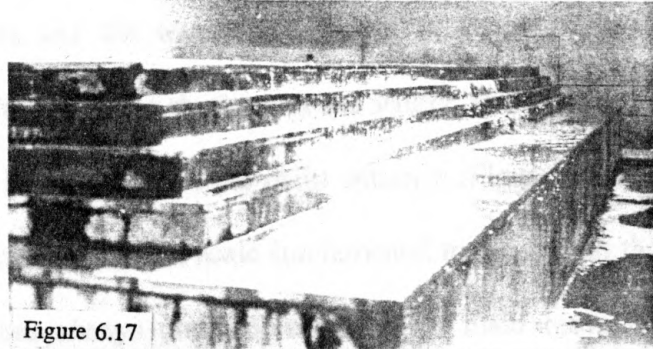


Figure 6.17

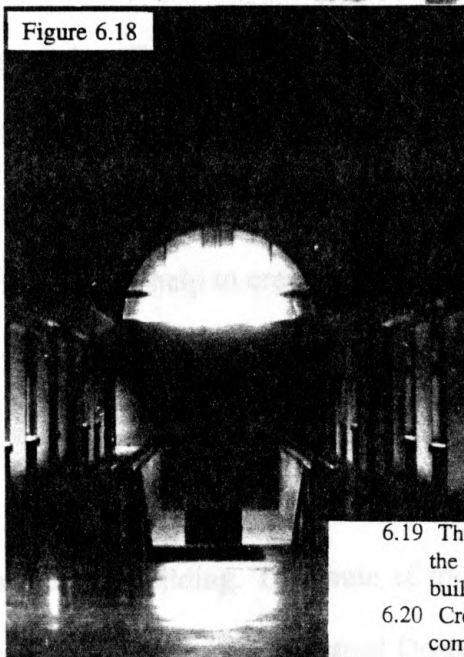


Figure 6.18

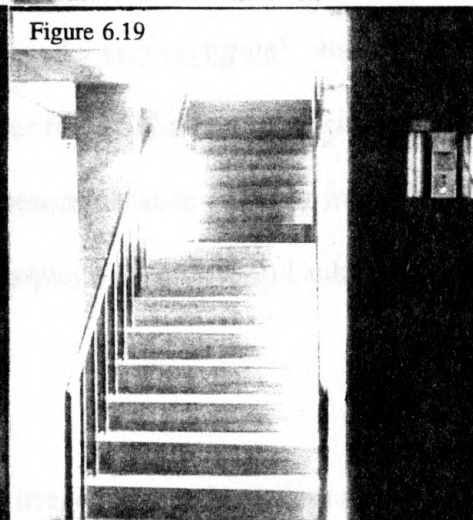
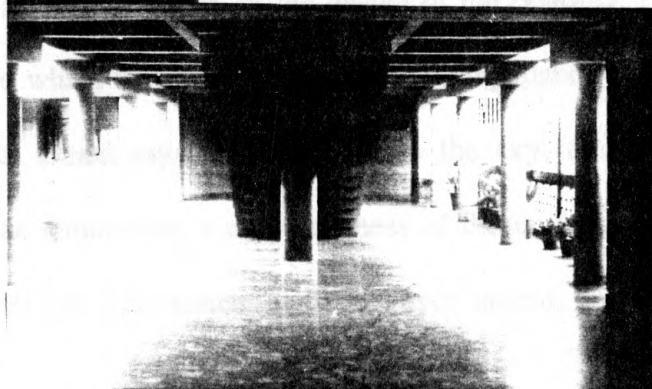


Figure 6.19

6.19 The transition and the play of light as one goes from the lower area to the higher one in the rear of the building.

6.20 Creation of spaces for enhancing the tactile component: A view of the transition space between the court on one side and the landscaped area to the other in the Gandhi Labor Institute.

Figure 6.20



is another ordinary looking institution building for the disabled. The building is slightly laid back so as to create a forecourt. The entrance is diagonal so that the viewer discovers and absorbs the building before entering it. The first sight is the grassy earth hugging mounds, the trees and the water. The visitor is made aware of the all the surface modulations of the walls, the rhythms of the vaults, and the progressing plinths and the shallow flight of steps leading to the main entrance (Figures 6.13, 6.14, 6.15, 6.16). The idea is again to create a human scale fundamental to the Indian thought as in the Indian temples. Doshi has always preoccupied with the main route up to and through his buildings (what Corbusier called la promenade architecturale), and this kind of an approach is seen in this building also. A water fountain in the entrance flanking the steps helps to liven up the atmosphere, The cool breeze because of water in the entrance court and the rear courts help to create a cool atmosphere in the hot and sultry summer months (Figure 6.17).

Doshi's architecture revels in ambiguity and irregularity and one sees this in these themes in his institution building. The route of movement through the complex is not formally culminated in a single center. Instead Doshi tries to organize circulation around multiple centers which relate to each other. In the design of the building. He uses courtyards as the centers around which the route of movement is organized (Figure 6.21). Discussing the use of courts, Doshi says, "Being open to the sky, these spaces infuse in the individuals and the community a consciousness of the universe and nature. They also bring the occupants into daily contact with the super natural, i.e., the mythical as well as

natural climatic elements and instil a sense of humility."¹³⁶

One enters the first floor under a transversal vault which then feeds laterally into the various departments by means of a lofty interior gallery. The interior route involves twists, turns and unexpected vistas, and is perhaps a metaphor of Mahatma Gandhi's quest. One route even continues straight through to the other side where an outdoor theater dips down into the rear garden. As a response to the hot climate, the interiors are controlled and shady.

The windows form a framed portal which reminds the visitor of the entrance portals found in the other parts of the city. This adds another unique aspect to the experience. The windows and doors openings are worked according to a proportion and symmetry, and open out to the landscape at the ground floor level or the view of the trees which block the sight of the high rise buildings near the vicinity of the site at the first floor level.

Doshi uses vaults which give the massing and form a striking visual element. Apart from the striking visual form, when used in combination with other vaults or unevenly placed piers, this pattern generates a rich rhythm in the interiors. This creates a psychological feeling of the spirits being elevated, when one moves in the corridors under the vaults.

¹³⁶ Doshi Balkrishna, "Selected Thoughts of the Architect" in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, New York: Rizzoli, 1988. p. 167.

Light is filtered in at the ends of the vaults and the curved soffits create a calm, sheltered and psychologically secure atmosphere (Figure 6.19). The vaults also accentuate the directionality of the interiors.

On the exterior of the building, the vaults soften the silhouette against the sky, and bring the buildings energies down to the ground.¹³⁷ In his recent buildings -for example, Sangath and the Gandhi Labor Institute -- Doshi has been fascinated by the tactile, earth hugging quality of the vaults. They also dramatize the fall of the rain; the vaults are integrated with the a variety of gutters, sluices and channels. Doshi's architecture in the Gandhi Labor Institute is poetic, earthbound and sensual. The vault seems to have strong poetic and traditional associations and involve the friendly shapes of mud vernacular buildings or with the rims and the bulbous forms of the clay pots and water jars to be found in the villages of Gujarat.

The existing landscape of the site had little to offer and so Doshi has created a landscape in the front and the rear of the site. He has also tried to create a controlled micro-landscape in the courts with the incorporation of shrubs, water bodies and interesting rhythms in paving. Doshi uses the elements like the plinths, steps, and platforms which invite people to sit and interact and thus make the environment communal. The amphitheater in the rear of the site and the entrance steps flanking the water-body are

¹³⁷ Doshi Balkrishna, "Selected Thoughts of the Architect" in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, New York: Rizzoli, 1988. p. 114.

examples of this. The terraces on the first floor level open out and provide areas of discussion after a meeting or quiet moments of contemplation. It is here that people have shared and collective experiences.

Doshi has tried to detail elaborately the pause spaces on the route of a movement through the building and the interior spaces where the vaults intersect have a different kind of light quality. On the outside, he uses semi-open spaces where the individual can participate in dynamic tactile experiences. He writes, "In my opinion, supreme among architectural experiences are ones which occur in spaces which could be characterized as pause or ambiguous, plural spaces. These spaces activate the human psyche and induce it to sinking towards the center, the mythical world of man's primordial being."¹³⁸ The colonnade flanking the center court space creates interesting rhythms in the semi-enclosed space (Figure 6.20). One is invited to enter the open space in the form of an open sky court on one side and a garden on the other.

The building has a succession of open and semi-open spaces which bring the sky element into the building. The breeze through the garden as well as the sky element brought into eye contact is psychologically soothing. The courtyards bring the element of wind, sun and rain into the building. When the monsoons crash down they sluice easily over the shiny curved surfaces into gutters that gurgle into troughs. The noise of the rain can be

¹³⁸ Doshi Balkrishna, "Selected Thoughts of the Architect" in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 165.

felt on the varying floor finishes in the various parts of the courts. Often, when there is a heavy downpour after the heat of the summers, the laborers and their children are found prancing around and getting wet in the rear courts. Because of the semi-open space linking the landscaped rear of the site and the internal court, the people gather in the semi-open space and enjoy the play of rain in the center court and the landscaped court.

In the internal court rain one can hear the rain on the stone flooring, washing the shrubs and filling the water. Across the other side one can see the rainfall over the trees and the green grass as well as the rain water streaming over the steps of the amphitheater. The monsoon rain washes all the surfaces and the china mosaic again becomes shiny white after a wash. Thus, one participates in the varying moods of nature. Discussing nature and the tactile dimension Doshi writes, "When the communications between man and his surroundings is realized, architecture passes beyond the mere realm of functional necessity and transcends into pure art -- the art of the rhythms, sound form color, texture, volume, forcing man to realize the higher values of life."¹³⁹

The concrete vaults of the Gandhi Labor Institute covered with fragments of china, the rich interior spaces, and the pools of water all remind of the lessons learnt in terms of tactile from the traditional architecture as well as influences from sources as diverse as

¹³⁹ Doshi Balkrishna, "Selected Thoughts of the Architect" in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 163.

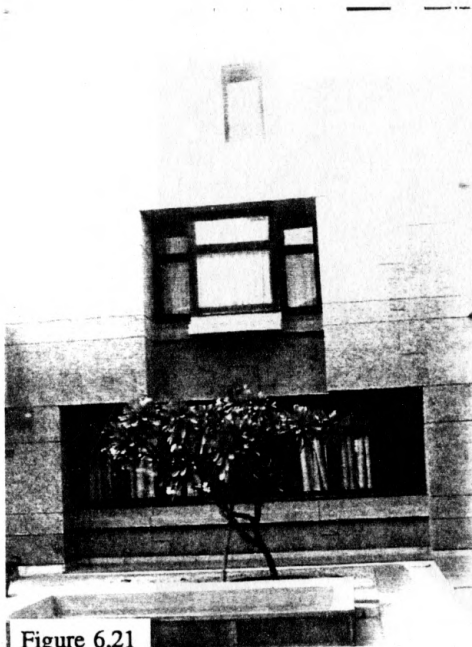


Figure 6.21

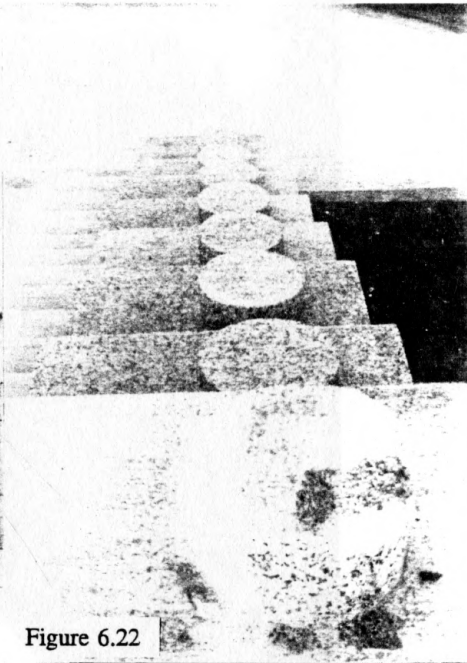


Figure 6.22

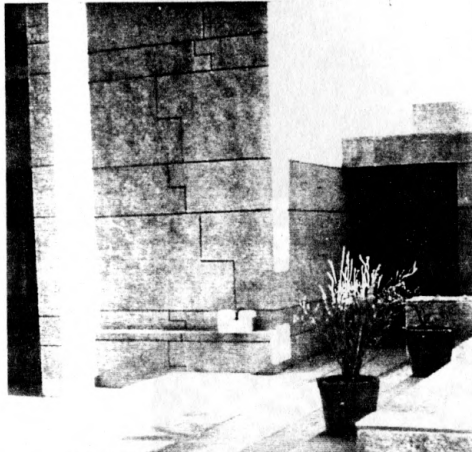


Figure 6.23

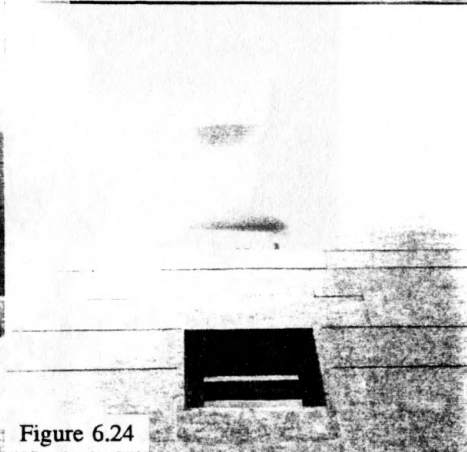


Figure 6.24

- 6.21 The making of portal out of the recesses in the walls, the making of seating spaces in the courts with the ledge of the water pool and participation with nature.
- 6.22 The detailing of the surface articulation as seen in the amphitheater at the rear of the Institute.
- 6.23 The steps in the various areas for seating and fostering communal activities.
- 6.24 The sunk and small windows as a climatic response and the articulation of the surface of the heavy wall in the Institute.

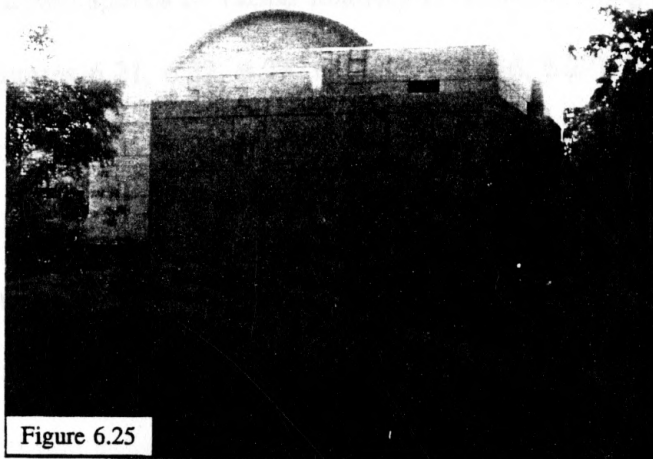


Figure 6.25

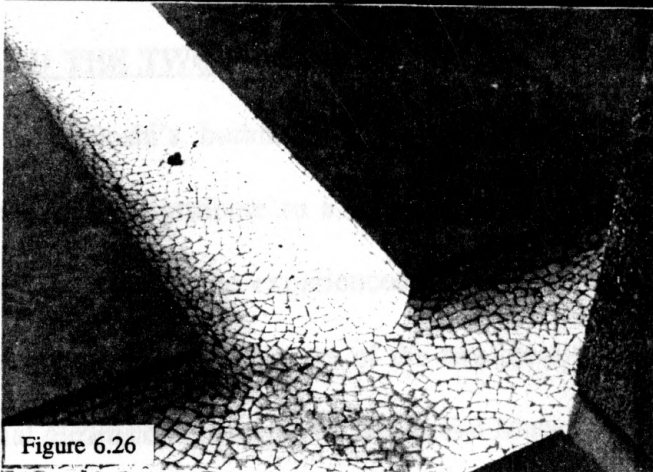


Figure 6.26

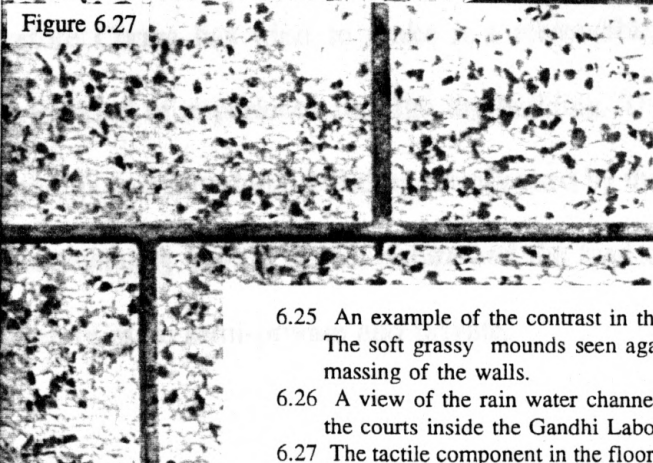


Figure 6.27

- 6.25 An example of the contrast in the visual and tactile: The soft grassy mounds seen against the heavy massing of the walls.
- 6.26 A view of the rain water channels in the flooring of the courts inside the Gandhi Labor Institute.
- 6.27 The tactile component in the flooring: Detailing of the floor in the center court of the institute.

Gaudi, Kahn and Aalto. Doshi articulates surfaces and the forms with a range of materials such as stone, screed, terrazzo, brick. He uses an earthy shade of green in the exterior of the building. Doshi speaks of varied nuances in terms of using materials and surfaces in a building (Figures 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27). He writes, "Feeling should be created in architecture. Surfaces should be peculiar and changing in volume and, naturally, in distance -- but perhaps the overall material should be the same. only at crucial places, a new material, a new texture, a new alien volume can be created to enhance and depict the peculiarity of the architectonic sensation".¹⁴⁰

AXIOM 5 AND THE TWO BUILDINGS

Both Correa and Doshi's buildings address the tactile dimension which Frampton emphasizes as a critical attribute to a regionalized building. Both buildings make one aware that environment can be experienced in terms other than sight alone. There is a difference in the nature of the program of the two buildings and so this has an effect on the experiential dimension also. Gandhi Memorial Museum, being a museum, is a public building, therefore Correa has tried to make it a memorable public space giving the people a different kind of experience through the building. The Gandhi Labor Institute, on the other hand, is an institutional building mostly used by the people of the institution. It does not predominantly have a public nature and the kind of experiences it offers to people are therefore more semi-private and private.

¹⁴⁰ Doshi Balkrishna, "Selected Thoughts of the Architect" in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 162.

The organization of the museum is done so as to make the visitor experience different kinds of elements in nature. The rich use of materials in the design of the landscape of the museum, the flooring of the museum, the presence of grass, leaves and the water, the trees, the chirping birds, all generate an important tactile dimension in the design of Correa's Gandhi Memorial Museum.

Doshi uses the courtyards, semi-open spaces, a sympathetic range of materials for giving highlighting the tactile aspect of the building. He uses the changes in the internal volumes ranging from square to vaulted to create different spatial experiences for the persons. The landscape is woven into the building and vice-versa.

Both buildings make one aware of complementary sensations like illumination, ambient sensations of heat, humidity and air movement, varying aromas and sounds given off by different materials in different volumes, and even the varying sensations induced by floor finishes. These multifaceted sensations set an example of a building highlighting the experiential aspect in an age dominated by media and the replacement of experience by information. In addition both buildings have a sequence of spaces that touch the psychic chords through a rhythm and pacing of the elements as well as through subtle allusions that touch upon archetypes within the Indian experience.

AXIOM 6: SPACE / PLACE

Having discussed Frampton's fifth axiom in regard to visual and tactile qualities of Correa and Doshi's buildings, I next consider the last axiom, which relates to the issue of making of places as against mere spaces in buildings.

Frampton suggests that this axiom contributes to perhaps the most important aspect of a regionalist architecture. He explains, "Critical Regionalism manifests itself as a consciously bounded architecture, one, which rather than emphasizing the building as a free standing object places the stress on the territory to be established by the structure erected on the site."¹⁴¹ Frampton takes the base of the formulation of space/place concept, clearly formulated by Martin Heidegger in his seminal essay "Building, Dwelling, Thinking."¹⁴² In this essay, the regularly subdivided theoretically infinite space is (in Latin, spatium in extensio) opposed to the concept of Raum as a phenomenologically bounded clearing or domain. For Heidegger, the boundary is not a line, which stops but rather the contour within which something begins its 'presencing'. Frampton explains that for Heidegger, the condition of dwelling and ultimately of 'being' taking place only in the domain that is clearly bounded. An architect must realize the physical boundary of his work as a kind of temporal limit -- the point where the act of building stops. The response to the idea of a bounded domain which is the essence of

¹⁴¹ Frampton, Kenneth. Modern Architecture : A Critical History, London: Thames and Hudson Ltd., 1985. pp. 327.

¹⁴² Heidegger, Martin. "Building, Dwelling, Thinking," in Poetry, Language, Thought, New York: Harper Colophon, 1971, p. 154. The essay first appeared in German in 1954.

place as form is mostly regional and at most times a good response to the climate of the place.

The term 'place' denotes a series of environmental levels ranging from the region to the village to a house and an interior. All these "places" begin their presencing from their boundaries unlike a space, which is an unbounded domain. 'Presencing' by principle implies particular relationships with the ground and sky.¹⁴³ The distinctive quality of a place is enclosure, and its character and spatial properties are determined by how it is enclosed. Enclosure primarily means a distinct area, which is separated from the surroundings by means of a built boundary. It may also be manifest in less strict form as a dense cluster of elements where a continuous boundary may be inferred rather than positively present. An enclosure may also be created also by mere change of texture in the ground. Thus the 'how' of an enclosure depends on the concrete properties of the boundaries. The boundaries determine the degree of enclosure as well as the spatial directionality. The solidity or the transparency of a boundary make a space isolated or a part of a more comprehensive totality.

When an opening is created in a centralized enclosure an axis is created that implies a certain kind of movement. This gives us the idea of the importance of the 'center' and the 'path' in a spatial structure. The centralization and longitudinality are often determined

¹⁴³. Norberg-Schulz, too, explains Heidegger's idea of 'presencing' and its relationship to place making at in detail in Norberg-Schulz, Christian. Genius Loci; Towards A Phenomenology of Architecture, N.Y.: Rizzoli, 1984. p. 58.

by the upper boundary of the space, for instance a barrel vault meeting the sky. The ceiling determines and helps us visualize the interior space. Domain also denotes the basic enclosure. In combination center, paths and domains form complex totalities contributing towards making of a space into a place. A space is articulated into a place with the use of architectural elements like wall, the floor and the roof with varying degrees of openness or closure depending on the intent of the designer.

The organizing principles and the spatial structure can give us a clue to the making of centers, paths and domains in the effort made toward making the entire complex taken for examination having a bounded domain. The design of the nature of the edge of the building on the site, the elements of spatial delineation (the floor, the walls, and the roof) are therefore the principal factors, which determine the making of a bounded domain. Besides this how the building meets the ground in terms of the wall and how the building meets the sky in term of the roof determines the character and the strength of the bounded domain.

ORGANIZATION AND SPATIAL STRUCTURE OF THE GANDHI MEMORIAL MUSEUM

Correa explains his idea of disaggregating architectural form as an appropriate perennial response to the Indian climate in the postscript of his book.¹⁴⁴ He makes use of the

¹⁴⁴ Charles Correa explains his idea of disaggregation in "Transfers and Transformations", Khan, Hassan-Uddin (Ed.). Charles Correa. Singapore: Concept Media Pte. Ltd, 1987. pp. 166-175.

articulated expression of the modular units for making bounded domains, centers, sub-centers and paths in the design of Gandhi Memorial Museum. The organization of the museum is based on the concept of modular spaces, grouped around a courts in multiples of the basic module. The plan of the module is a square with six by six meter sides. The modular form is centroidal and static and an appropriate choice for creating the kind of environment demanded by the program of the building.

The main theme in the museum is the grouping of the modules in an orthogonal grid but yet in a casual, meandering pattern so as to create a grouping analogous to organization of the Indian villages. The modules are raised above the ground level by means of a plinth and have a pyramidal tiled roof over them. The modules are also a response to the incremental nature of the institution which will grow over time.

The spatial organization is additive in nature and the space is controlled by a non-directional orthogonal discipline. In general terms, the modules in the grid unite to form different kinds of spaces. There is variation in the modules: the closed modules group together to form the main functional space and the semi-open modules connecting the main spaces become both connectors (Figure 6.28). The corridor of the museum, which is six meters wide, is similar to a meditative ambulatory rather than a mere connecting space. These modules view spaces, relate to the exterior environment as well as interior spaces depending on their placement (Figure 6.28, 6.29). They also serve well as a receptacle for sunlight through the sides. The open modules are the courts and are the

main receptacles for light, ventilation and play of nature brought into the building.

The entrance court to the museum is not strongly defined. It is a casual entrance space from where the visitor can see the different units and move around in the museum building. All the units which house different functions are segregated towards the edges. The water court is the largest court (made up of four units) and is central to the organization. The main axis is formed by the entrance: the central court is slightly eccentric, and the other units are not placed in a symmetrical fashion. The unit housing the books and the archival information is the largest volume and lies along the main axis. The area which houses the photographs and paintings put up for exhibition is elongated in plan. The plan of the area which houses the exhibit of letters and Gandhi is square. The office area is located near the entrance for the convenience of the administrative staff. The area catering to the meetings is located on the right hand side of the museum complex because of the nature of the function it houses. The whole museum is laid out in such a way that the wall surfaces of the units forming the modules are either exposed to the exterior in one way or the other (Figure 6.29).

As far as the organization of the museum on the site is concerned, it is located next to a busy traffic road (Figure 6.36). There is a small court at the entrance from where one takes a meandering route to the different buildings in the Gandhi Ashram complex. There is a central spine in the site which divides the entire plot into two and leads the visitor to the river edge (Figure 6.31). However, there is no visual or direct link to the river

edge. The museum is not connected in any way to the other buildings except through a path.

CIRCULATION AND PATH SPACE RELATIONSHIPS IN THE MUSEUM

The building has a winding route which turns, stops, and twists, emphasizing the unfolding of the building as it takes the visitor to the entrance area of the museum. It helps to create a mood and reinforce the theme of a casual route in the entire complex. The building's entrance is not dynamic and hidden until the point of arrival (Figure 6.34). Because of the employment of grid as an organizing device, the circulation which is the perceptual thread linking the spaces of the building together, the route takes is mostly a linear element (Figures 6.32, 6.34, 6.35, 6.36). There is a time dimension in the building introduced by the route, which has no fixed direction.

The organization generates plenty of pausing and resting spaces along the route wherever there are courts and an exterior edge along the modules in the museum. In the entire complex, the trees are used as landscape elements and as pause spaces with platforms built around them for people to sit (Figure 6.37). There is an effort by Correa to maintain a visual continuity by framing the distant view in the museum and the rest of the site. There is no termination space in the museum. The embankment at the river edge at the rear end of the site is a symbolic halt pause space as well as the termination space (Figures 6.32, 6.33).

SPACE DEFINING ELEMENTS, ENCLOSURE AND PLACE MAKING IN THE GANDHI MEMORIAL MUSEUM

The character of enclosure is one of the most important themes which helps in the creation of a place in the museum. The basic modular enclosure in the building is out of basic materials -- stone for the floor, bricks for the walls and tiles for the pyramidal roof. Because of the variations in the modules employed by Correa in the section, the Gandhi Memorial Museum offers a rich continuum of zones ranging from open to semi-open to closed and these zones offer varying degrees of definition of space inside the complex (6.28, 6.29) . There is a constant play and interaction of all the enclosures with nature. The modular enclosures have been interwoven in such a way that there is a transparency and relationship with nature found in the building.

Correa uses green polished kotah stone flooring in the entire museum building. The flooring is not regular in pattern but is staggered and articulated by using thin bands of marble flooring. Because of this, the regular characteristic space which would have been generated by the modules is destroyed and the entire museum is unified. There is a sense of contained randomness in the flooring and the organization of the enclosures. There is an articulation of the flooring edge by using a rough edge of concrete. This gives the flooring a contained quality and a domain is established. The I-shaped brick piers also articulate the connection between one module and another.

Rough exposed brickwork has been used by Correa to give the walls a rustic character



Figure 6.28



Figure 6.29

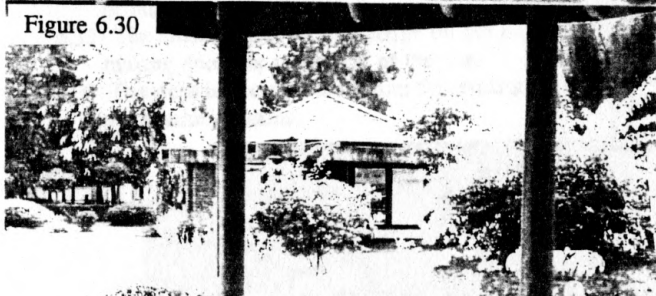


Figure 6.30

- 6.28 A view of the making of varying enclosures, landscape elements, the ideas of centers, meandering paths and domains in the Institute.
- 6.29 Varying level of enclosures in the Gandhi Ashram.
- 6.30 The making of domains with landscape elements, trees, plinths, boundary walls in the Gandhi Ashram complex.



Figure 6.31



Figure 6.32

- 6.31 The enclosing site boundary wall making up the first domain in the Gandhi Memorial Museum and the idea of visual continuity.
- 6.32 The embankment and the ledge by the river side making domains at the rear of the site.
- 6.33 The steps to the river indicating the transition between two natural domains.

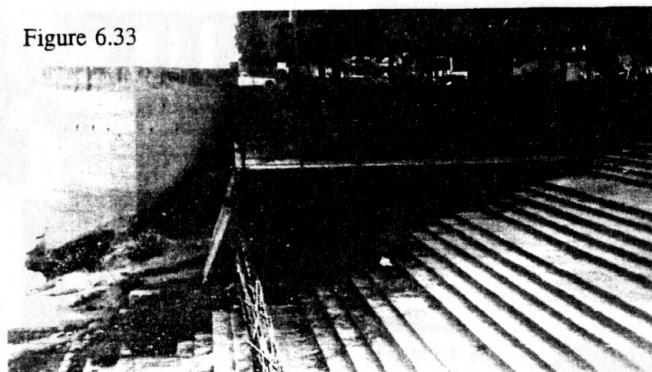
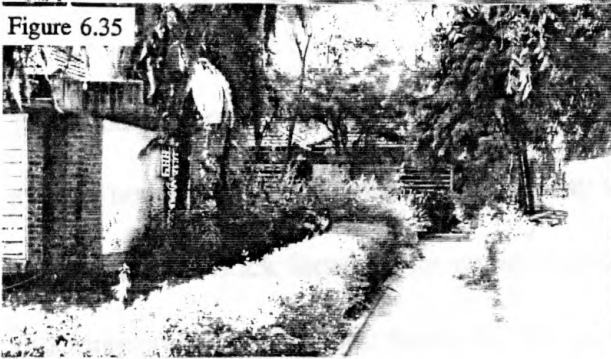


Figure 6.33

Figure 6.34



Figure 6.35



6.34 The details of the boundary wall and the entry area of the Gandhi Memorial Museum.

6.35 The domains made out of the natural shrubs demarcating different areas within the Ashram Complex.

6.36 The detail of the boundary wall of the Gandhi Memorial Museum.

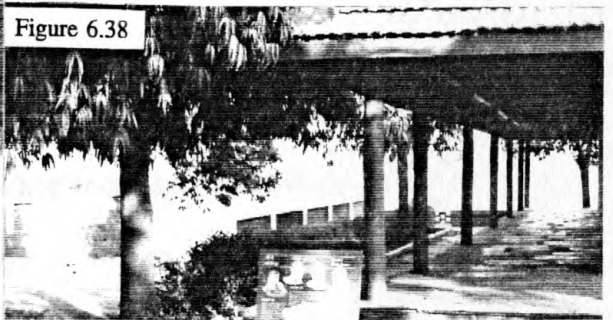
Figure 6.36



Figure 6.37



Figure 6.38



6.37 The varying enclosures, the idea of a continuum of open, semi open and closed zones and visual continuity in the Museum.

6.38 The path leading to the river edge and the dense vegetation on the site contributing to the meandering quality of paths in the Museum.

6.39 The idea of visual continuity and meandering paths in the Ashram.

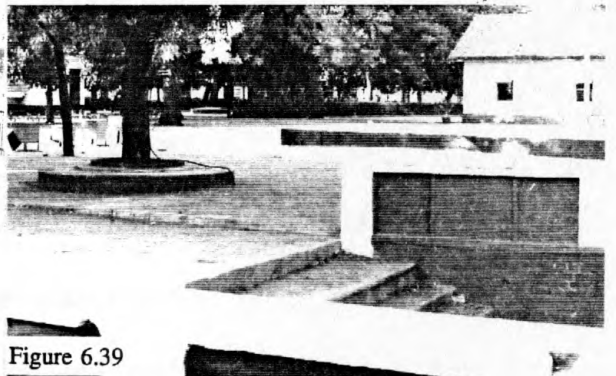


Figure 6.39

The walls give a feeling of strong enclosure and a simple character to the building. The walls of the building have been raised on a plinth so as to raise the building above the ground. The earlier buildings on the site including the old Gandhi ashram had a high plinth. This denotes the raised floor above the earth, which in the Indian context is related to sacrality as found in the Indian temples. The walls when viewed against the roof have a vertical character often associated with religious aspiration. However the low pyramidal helps to reduce the verticality giving the expression of humility to the enclosures. In the interior, the section is humanly scaled and allows for the individual to relate to it. The pyramidal ceiling, however, gives an elated feeling to the visitor.

The openings are in the form of wooden louvers or horizontal openings between the two piers. They are like holes or a different entity when seen against the interior white plaster or the external brick facade. The wooden windows help to create a feeling of enclosure and interiority. On the other hand, the other openings bring nature into the building and thus help in creating a strong dialectic between the inside and the outside.

The materials and the manner in which the new building has been designed can be related to the older buildings existing on the site. This has allowed for the some commonality in terms of the expression form, being on the earth (Figures 6.37, 6.38). This way the building helps constitute a genius loci, which allows for human identification. When the entire spatial organization and the system of enclosures is seen as a whole one can identify the making of bounded fragments which are linked to one another throughout the

complex. The floors are delimited by the rich articulation in terms of usage of materials and detailing in the museum. In landscaping the site, the use of different materials like the stone chips, cobble stones, brickwork and the green grassy lawns all come together to make small bounded fragments (Figures 6.35, 6.36). The embankment at the river edge and the steps leading to the river signify and articulate the transition from one natural domain to another.

The walls in the Gandhi Memorial Museum are articulated by making of concrete plinths in relation to the floor. The reinforced concrete channel beams serve as the transition between the tiled roof and the brick wall. There is a rich play of materiality exhibited in the museum. One finds an edge articulation in all the elements in the museum. The sloping tiled roofs form a part of the indigenous architectural vocabulary in the region and they mold a clustered silhouette meeting the sky.

The roof has a definite termination and the edges are formed by the rain water channels culminating into gutters. At the places where the modules end the channels come out and cross each other at right angles suggesting possibility of growth of the museum in future. Reinforced concrete is the material by which liberation from the vernacular is attained. The idea of standardization is seen intrinsic to the technology, but this does not take prime importance in the organization of the building. There is a certain kind of regularity emanating from the organization in a grid pattern.

ORGANIZATION AND THE SPATIAL STRUCTURE OF THE GANDHI LABOR INSTITUTE

In a way related to Correa's efforts, Doshi also uses lot of design elements including maze like interiors, platforms, terraces, ambiguous edges to transform the spaces into bounded domains. He draws on the idea of the center, sub-centers and layered spaces for making of domains. The idea of center has been fundamental to the Indian philosophy and thought. Historically the conceptions of the cosmic center and its manifestations have taken various forms such as the court of the dwelling or the palace, or the cella of the temple.

The concept of layers has been central in the organizational attitude to space in Indian traditional architecture. It is a response to various issues -- the societal values, to behavioral norms, and to climatic necessities. The sense of transition from the center to the periphery and periphery to center has been restated in the Gandhi Labor Institute.¹⁴⁵ The mode of perception -- the traversing of the space and the resultant imagery -- constantly relies on Doshi's ideal of the shifting diagonal. Like many other Indian traditional buildings, the route of movement and experience is not culminated in a single center. Instead there are multiple centers which relate to each other. Doshi has used this idea in the organization of the Gandhi Labor Institute. In addition to the notion of inward center and the layered inner space, Doshi uses the conception of the penetration of the

¹⁴⁵ Varkey, Kurula. "Themes and Ideas" Architecture + Design, Vol. 5, No. 2, Jan.-Feb., 1989. p. 29.

outer landscape into the building as a wedge (Figure 6.41, 6.42).

In the Gandhi Labor Institute, Doshi also uses the notion of structuring the domains around the idea of courts. The institute is organized around three courts. The entrance court with elaborate platforms, steps and plinths leads to the teaching and discussion areas. The main courtyard serves as a place for interaction between faculty and students while the third is generated by dormitories.

When one looks at the overall spatial organization of the Gandhi Labor Institute, the main part of the building has a central largest court of its own and the other functions housed in additional portions could be seen as extensions to this part. In one sense, the building in a way surrounds the open space focussing into the open space in the vista beyond the site. The spatial organization of the institute is clustered in nature. The building has series of cellular repetitive and varying spaces housing different functions. The spaces do not originate from a strong grid. There is an underlying grid in the design of the building, but Doshi takes the liberty of breaking it, moving it at an angle towards the rear of the site and adding cellular kind of spaces to it. The organization is cranked in plan to fit the uneven perimeter of the site. By doing so, it also defines a precinct to the rear of the site where there is an amphitheater abutting the building and stepping down into the garden.

Doshi refuses to think of the organization being discrete. It is worked out in such a way that the functions freely flow into each other. The axes are implied, denied and then

rediscovered. All the planned irregularities are controlled by a simple and geometrical and proportional system based on the square.

The section hints the way the single and the double height volumes and the edge of the building is articulated into the landscape of the site. The shifting of axes continues as one gets inside. While walking through the building, one experiences an interesting play of single and double heighted, vaulted spaces flowing into each other. Usage of bright color at the end walls adds to the play. The vertical planes in form of walls that move in and out form an envelope around the vaulted volumes. Recessed openings are articulated into the massing. The walls enveloping the courtyard have a character relating to the surroundings and beyond.

Terraces at all levels form another important design feature and allow the activities to extend out into the open. Talking about spaces, Doshi remarks, "Any space, either open or enclosed is a result of needs. In a town the needs of the community, the needs of the community activities make the space... Courtyards are a typical feature in tropical climates. The courtyards of varied sizes become the major area of activities. They provide ventilation, shade, and enclosed, open-to-sky, private spaces..."¹⁴⁶ Besides this the use of vaults and the kind of walls used enrich the idea of bounded domains transforming the complex into a place for people.

¹⁴⁶ Doshi Balkrishna, "Selected Thoughts of the Architect" in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 161.

CIRCULATION AND PATH SPACE RELATIONSHIPS IN THE GANDHI LABOR

INSTITUTE

The approach to the building is through an entrance forecourt and is diagonal. It enhances the effect of the perspective and the visitor sees the gathering of the walls of the institute in the building. It also helps to emphasize the unfolding of rhythm of the vaults, the walls, the plinths leading to the front entrance and the stepped form. The main building entrance is hidden when one starts the movement from the entrance gate of the building. One passes the walls, earth hugging green mounds and the water fountain before he reaches the entrance of the building. There is a shallow flight of stairs which takes one up to the middle level and one route even continues straight through to the other side where an outdoor amphitheater is located in the backside having the garden (Figure 6.45).

The entrance is slightly recessed in, between the two massive volumes. It is sheltered and pauses the exterior movement route to the entry in the building and then out of the building. There is another side entrance which takes the visitor to the lower level.

The long linkages in the high exhibition space and the narrow movement areas between the internal and the external courts connect all the functional areas of the complex. The centrality of the inner court, with its linkage to the outer court, the amphitheater, the dining area and the terraces of the dormitories, convey multiple relationships of being.

The configuration of the paths in the building is a combination of linear maze like paths. Doshi allows the visitor to pause, stop, and rest because of the rich variety of spaces in the circulation route. The volumetric form of the circulation route varies from a rectangular flat roof section, vaulted one, a semi-open on one side to semi-open on two sides to the courtyard spaces. Doshi also revels in ambiguity and irregularity in the exploration of the route through the building.

SPACE DEFINING ELEMENTS, ENCLOSURE AND PLACE MAKING IN THE GANDHI LABOR INSTITUTE

Besides centers and domains, the character of enclosure is also one of the important themes in the Gandhi Labor Institute. The building also offers a rich continuum of changing zones ranging from the open to the semi-open to the closed. The massing of the building is heavy and there is an emphasis on controlled interiors. The enclosure is treated like a shaded retreat whereas the exterior is treated like a garden.

There is a range of materials used for flooring in the museum. Doshi uses concrete paving in the forecourt because of the vehicular and heavy use of the entrance area. The entrance court has a circular flooring pattern. It tries to bind and brings the energy of the landscape into the center and the visitor pauses at this spot to observe the building before proceeding on his route. Doshi has used polished stone flooring in the institution which starts from the entrance area of the building.

The flooring is articulated with the use of interesting patterns, sometimes defining a particular area, sometimes the nature of the ceiling above and sometimes demarcating the transition between inside and outside. In the interior, Doshi uses a polished stone flooring of green kotah stone and yellow polished stone. Regular and rhythmic delimited patterns are formed with the use of these two types of polished stones and they also help to break the strong directionality as a result of the vaults above.

In the exterior, Doshi uses a sympathetic range of materials ranging from stone chips, cobblestone, screed, plaster, rough concrete and bricks to create a rich articulated flooring in the landscape and the courts. It contrasts with the green patches of lawns and water pools, also existing in the landscape. After the transition of the flooring into the court, the materials take on a rough texture and contrasting colors. Red sandstone bands of flooring contain delimited areas of green chipped flooring. Bands of cobble stone create a richness in the courts. All the edges where the wall meets the floor are finished with glazed chips of mosaic tiles. The play of materiality in the institution helps a lot in making of the bounded domains, making of centers and paths. The details are resolved to the last bit so as to create a rich diversity within a unity.

The walls of the institute fold and envelop the building. Staggering of the form to create courtyards is also an appropriate climatic response. In addition it also helps to make rich sub-spaces. The walls do not take the form of a singular plane, rather the undulating rhythm of the planes emphasizes the character of the walls making the definition of the

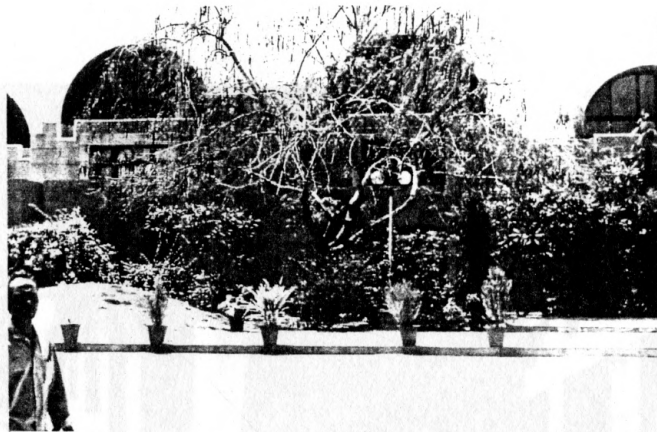


Figure 6.40

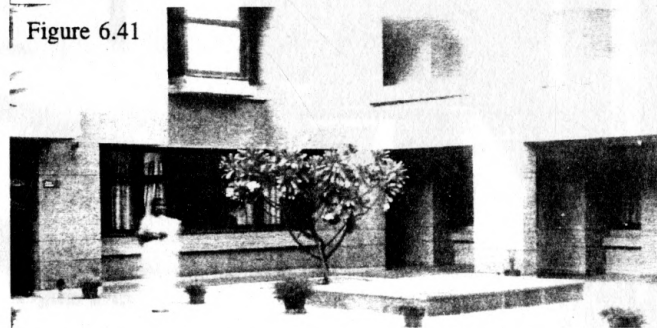


Figure 6.41

- 6.40 The use of landscape and the heavy massing and rhythmic vaults to create strong enclosures and domains in the Gandhi Labor Institute.
- 6.41 The varying levels of enclosures seen in the institution and the creation of a private courtyard.
- 6.42 The making of seats with the window ledge and the transition spaces between one domain and the other in the institute.

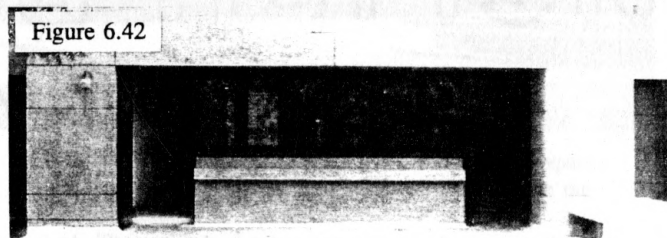


Figure 6.42

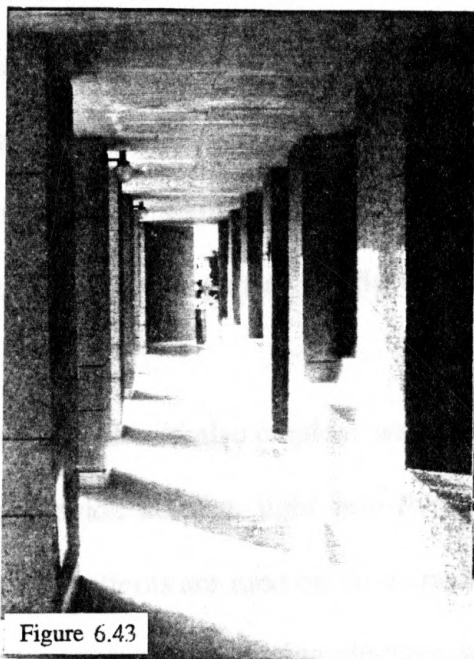


Figure 6.43

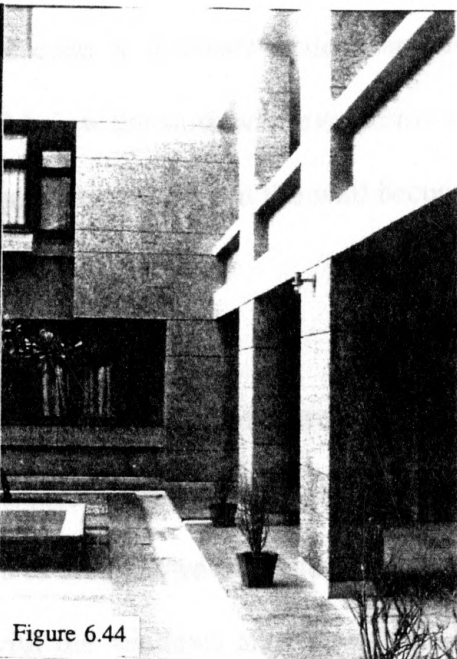


Figure 6.44

Figure 6.45



- 6.43 The play of light, the nature of the connecting spaces linking two domains and the use of materials in the institution.
- 6.44 The making of a transition space, the aspect of gathering in the courts and the detailing to create the idea of a shaded retreat in the institution.
- 6.45 A view of the building base widening towards the garden in the form of an amphitheater and the gathering of the building mass at the rear of the site.

enclosure rich (Figures 6.41, 6.44). The walls are supported on high bases, either on plinths or steps leading down to the landscape. Doshi designs the wall in such a way that it simply doesn't meet the ground. The communion of the wall and the floor, artificial or natural takes place in a special way. The bases on which the wall rests sometimes culminates into a seating space in the landscape or contrasts against the grassy mounds of earth (Figure 6.41, 6.42). Even the wall below the sunk windows forms a small ledge which allows for seating. There is a change of material when the wall becomes a parapet or transforms into a part of the floor.

In his design, Doshi also employs washed terrazzo finished with green colored aggregates. These provide a crisp, light sensitive surface almost similar to the sharp cut stone. Staggered patterns are used on the terrazzo to break down the volume of the walls. It also helps to create an interesting rhythms with the windows and the vaults above. In the interior, the ceilings and the surfaces of the vaults are in textured gray concrete and this distributes a restful light broken in places by alternating bands of shadow. In the interior the end walls are painted with bright red color so as to create a play of color and quality of light in the interior. The windows strongly contrast against the mass of the walls. They are hooded deep into the walls. They also help in accentuating the folding character of the walls.

The white vaults of the institute help to take the rhythm of the walls to the roof and form an interesting play against the blue sky. The building's roof does not abruptly meet the

sky -- the silhouette is softened by the use of the vaults. The vaults are integrated with a variety of gutters, sluices and channels. The vaults over the institute give a protective feeling over the institute complex. There is a play of the elements transforming into each other with a strong materiality seen against the forces and play of nature. Doshi uses lessons from nature to create a rich diversity and weave it into the design of the building. In his discussion of making a place and the role of nature he writes, "What kind of a logic does nature have ? How does it manage, and with what kind of skills does it respond to a particular situation And, how does it make a variety of elements live together?"¹⁴⁷ Doshi also tries to transform the poetics of nature and reflect it into the design of the institution. The genius loci of the institution is a result of all the elements coming together in the articulated concretization of form.

AXIOM 6 AND THE TWO BUILDING

After a visit to the Gandhi Ashram complex, one carries a strong tranquil image of the architectural whole. There is simplicity in the air and walking around the building one is reminded of the simplicity and struggle of the freedom fighters who laid down their lives for the independence of the country. An austere impression of Gandhi's life is bought to mind. Because of the high plinths and stepping up to most buildings in the complex one is reminded of the sacrality associated with Gandhi and the museum. The pyramidal roofs do not assume a rising role, but because of their disposition assume a protective role over

¹⁴⁷ Doshi Balkrishna, "Selected thoughts of the Architect," in Curtis, William J. R. Balkrishna Doshi: An Architecture for India, N.Y.: Rizzoli, 1988. p. 163.

the museum. The horizontally extended cluster of the museum and the other building gathers itself together as well as the local character of the by-gone days in the place.

The steps at the rear of the site gradually slope down to the river showing a due sign of respect. Although the nature of the landscape around the building is romantic, the buildings give a sense of abstract order, almost cosmic in character and aiming at spiritual aspiration. There is simplicity and restraint in the use of materials by Correa for expressing the simplicity in the design of the museum which could be associated with Gandhi. The feeling of boundaries is strengthened by the Correa's use of modules in the structures, and centering it around the courts. The feeling of enclosure is also strengthened by the vegetation on the site.

The streets have a meandering character inside the museum as well as around the site. Despite being orthogonal they assume an organic character because of the organization and the landscape around it. There are elements of discovery and surprise in the entire complex. There is a good resolution of details and there is a strong mass and surface relationship expressed in the materiality of the floor, the wall, openings and the roof. All of them gather together because of their rich articulation and bounded domains and help in the constitution of a place.

Doshi also uses the idea of structuring the building a system of centers and sub-centers. The Gandhi Labor Institute is organized around three centers in the form of three courts.

The major portion of the building is centered around the main court, the other addenda have small courts. Doshi tries to make bounded domains breaking up the building into small parts. These parts however belong to a larger whole. This larger whole is then wedged into the landscape to make it a complete whole.

However, there is a basic difference in the nature of the courts of the two buildings. Correa uses the courts in his buildings to get light and various elements of nature in the form of rocks, vegetation into the building. However the courts assume a spiritual character, are sunk spaces and discourage the people to use them. They almost take the notion of a sacred object and a center amidst pathways where there is communal interaction. Doshi, on the other hand, uses courts for the communal interaction. The spaces of the institution flow into the courts. The bounded fragments of the corridors are dissolved and flow into the courts.

Although there is an attempt by Doshi to create ambiguity in the experience of the building, the organization of the building is such that the various elements almost lead the visitor to see the building. The meandering quality which was seen in Correa's building seems to be missing. However, there is more stronger layering of space because of the plinths, steps, and the amphitheater in the Gandhi Labor Institute.

Because of the strong massing and the enveloping walls, the building has a strong protective character. There are elements of surprise and discovery in the entire building.

Because of the strong geometrical volumes and spaces in the building it gives a more controlled atmosphere in the interiors. The hooded and sunk windows add to this quality. The Gandhi Labor Institute takes the approach of a shaded retreat as a response to the hot and dry climate compared to the spiritual garden quality found in Correa's building. Despite the heavy massing the building tries to avoid monumentality. Because of the lack of a strong context and surroundings the Doshi tries to interpret the theme of the building like a communal learning space in a hot-arid climate.

The Gandhi Labor Institute offers intricate patterns and poetic articulation of form in terms of the elements he uses for the concretization of the space. Doshi uses the vaults as an element for softening the building's profile and relating it to the sky. The building even though heavy in its massing lightens up because of the white vaults. The rhythm of the vaults is again carried down to the folding walls, the gutters, and the sluices. All the junctions where the various elements meet have an intricate resolution. The character of the walls in the front facade, the courtyard facade and the rear garden facade varies according to the function (Figures 6.41, 6.42). The walls meet the earth in a layered natural and man-made floor (Figures 6.40, 6.45). All the elements inter-relate with each other and the various forces at play offer a human scale and identification. All the elements make levels of bounded fragments inside and outside the complex. The feeling of enclosure is also strengthened because of the tall trees and the vegetation on the site. They also contribute to the articulation of the broad domain in the site.

There is a rich density of themes in the design of the elements of the Gandhi Memorial Museum and the Gandhi Labor Institute. The small themes help to reinforce the larger theme of an overall articulated form which helps in the making bounded fragments and domains contributing to the making of a place as against a space. The overall result of the concretization of the elements is the unity within diversity of multiple planes, advancing, receding, stating informality and multivalence in the buildings. The environmental richness is related to the spatial properties, organization and the elements of space making. The properties that these elements reveal are not only distinguished by the variety but also by the constitution of an imagable whole. Overall, both buildings adhere to Frampton's proposition of making an effort to transform mere spaces into places and trying to constitute a genius loci.

After having discussed the relationship of Frampton's sixth axiom with Correa and Doshi's buildings, the next chapter reviews all the six axioms together and discusses the comparative regional content in terms of Frampton's idea of critical regionalism. Besides a comparison and contrast, the next chapter also critiques Frampton's critical regionalism in relation to the two buildings.

CHAPTER 7:

CONCLUSIONS

As discussed in the earlier chapters, Frampton's argument for an "architecture of resistance" and the idea of critical regionalism is proposed as a speculative manifesto which is more of a conceptual proposal rather than a prescription for design. The six axioms that I discuss form the core to his argument for critical regionalism in my Indian condition. The conclusions in this chapter are structured in two parts. The first section deals with the comparison of the buildings with respect to the axioms, and the second section critiques Frampton's idea of critical regionalism emerging from the two buildings.

PART 1 : FRAMPTON'S AXIOMS AND THE TWO BUILDINGS

VERNACULAR FORM AND THE TWO BUILDINGS

Both Correa and Doshi have endeavored to embody regional content, Gandhian philosophy and ideas in the design of the two buildings. As regards the Frampton's first axiom, which suggests the relationship between vernacular form and critical regionalism, both buildings try to avoid a sentimental and nostalgic return to vernacular. They use interpretive elements from the vernacular which are suited for the present times, program and the context in an effort towards a regionally responsive Indian architecture.

For the design of the Gandhi Memorial Museum, Correa draws lessons for dealing with climate from the diverse examples of historical as well as traditional architecture in India in the hot and dry climatic regions. Designing in reference to a strong context which

¹⁰ Correa, Charles, "Translators and Translators" in Khan, Hasan-Uddin (ed.) *Charles Correa*, Singapore: Concept Media, Pvt. Ltd, pp. 166-173.

comprises of a traditional set of existing old buildings, Correa responds sensitively and takes into account the existing subtleties of the existing fabric. He uses modular simplicity in the organization of the building and conceives the structure with the use of the basic materials in resonance with the older buildings in the complex -- brick walls, wooden doors, louvered windows devoid of glass and tiled roofs.

Correa draws on ideas for the section of the building and the micro-climate developed by the water-bodies from Fatehpur Sikri, the Mughal city founded by Akbar, the Mughal emperor in the sixteenth century. The idea of disaggregating the various functions of the museum into different volumes around courts in an asymmetry manner stems from the traditional vernacular villages found in the Rajasthan.¹⁴⁸

Like Correa, Doshi also takes lessons from climate and materials as far as the relationship of the building to vernacular form. Designing for the brief of a contemporary institution on a site which has no immediate contextual references, except the high rise buildings in the background blighting the cityscape, he relies heavily on his own intuitive judgement and indigenous vocabulary formulated over numerous years of practice. He uses a contemporary modernist vocabulary but transforms it in terms of the organization, relationships and the materiality with the help of the indigenous construction and locally skilled workers of the region.

¹⁴⁸ Correa, William J. R. *Building Design for Architecture for India* New York: Rizzoli, 1988, p. 40.

¹⁴⁸ Correa, Charles, "Transfers and Transformations" in Khan, Hasan-Uddin (Ed.). Charles Correa, Singapore: Concept Media Pte. Ltd, pp. 166-175.

Doshi has tried to interpret fundamental lessons in terms of generic elements and spaces from the specifically Indian characteristics of the architecture of the past that might transcend the different stylistic periods (Buddhist, Hindu, Islamic and so forth). In this attempt, he tries to treat institutional buildings as analogies of the traditional townscape using the steps, plinths and courtyards as the elements for informal gathering and giving the complex a sense of place. Doshi's Gandhi Labor Institute reuses many elements from Sangath (Doshi's studio at Ahmedabad), most markedly, the concrete vaults covered with fragments of china, the faceted terraces, the earth mounds and an amphitheater.

Doshi organizes and articulates the plinths of building with an inspiration from the typical temple constructions. The massing of the building is influenced from reconstructions, the city-gates of Kushinagara at Magadha (5th century B.C.), also having vaults in both directions on a high plinth.¹⁴⁹ Doshi's search for form relies on analogies, poetic connections and a store of impressions in his artist's memory and the generating ideas can be seen as sketches in his notebooks.¹⁵⁰

Comparing the regional content of the two buildings in regard to vernacular form, Correa's building offers more concrete lessons in terms of the form, organization climate and the materiality because of a strong contextual reference. On the other hand, Doshi is

¹⁴⁹ Curtis, William J. R. Balkrishna Doshi: An Architecture for India, New York: Rizzoli, 1988. p. 40.

¹⁵⁰ Ibid., p. 36.

working without any contextual references except the parameters of the site, and therefore his search for form relies on his past lessons of building in the region including that of Le Corbusier. Though both buildings use a modernist vocabulary, the Gandhi Labor Institute, because of a strong form moves more away from the vernacular. Correa's building looks similar to the vernacular but on careful observation one can see the rigor behind the simplicity in the design of the institution. Correa has tried to evolve a grammar for the new building by intelligent reworking of the elements found in the existing buildings on the site.

MODERNISM IN INDIA AND THE TWO BUILDINGS

As far the two buildings and the relationship with Frampton's second axiom which links regional form and the lessons learned from modernism in India, both Correa and Doshi's buildings hint at lessons learned from the modern movement. Both buildings are built in an Indian condition which is influenced by the modernist condition.

Modern architecture was adopted in India as a suitable vehicle for the technological and social progress of the country geared towards a rapid modernization. Le Corbusier's invitation to design the state capital of Punjab is an example of the avant-garde attitude taken by the then prime-minister of India, Jawahar Lal Nehru. The Indian architecture of the 1960s shows a strong affinity to identify with the Western life-styles and institutional frameworks. The western influence on the teaching curricula and the training of Indian architects also played a major role in dispersing the so-called International Style in India

too. The three masters in the form of influences by Lutyens, Corbusier and Kahn played a significant role in influencing the architects of India.

Because of his Western education, Correa was able to see the effects of the modern movement first hand and therefore has been rarely tempted to import western ideas into India. The Gandhi Memorial Museum being Correa's first commissions, it is difficult to trace how his earlier work affected the design of the museum. However, the roots of the grid, the idea of module on which he bases the plan of the museum could be traced to the modernist vocabulary.

The museum does not show an avant-garde attitude or an attitude of reductive functionalism. Correa's building designed in the Gandhi Ashram complex hints at socialist underpinnings because it does not try to make a monumental statement (Mahatma Gandhi was a socialist at heart). The materials used in the building can be understood rationally in terms of the construction. The idea of the module and the standardization can be understood as intrinsic to the technology but it is not reductive in attitude when seen in the design of the building. Correa has tried to work out a structure by using reinforced concrete which permits accommodation and change with time. There is no ornament in the building; rather the nature all around the building becomes the ornament in the building.

On the other hand, because of a direct contact and working under Le Corbusier, Doshi's

architecture shows a strong affinity for Corbusian vocabulary and forms. He has gradually moved beyond the influence of Corbusier and started a search for a more appropriate regional vocabulary. Many features and design elements at the Gandhi Labor Institute are an intelligent reworking of the modernist vocabulary. The pools come from Le Corbusier's Millowner's building in Ahmedabad, the amphitheater steps echo Wright's Taliesin and certain of Aalto's ideas. The broken china reminds of Gaudi's Guell Park and the water-bodies and channels are inspired by the one at Salk Laboratories in California by Louis Kahn.¹⁵¹ Doshi has intelligently blended all these to form a vocabulary of his own.

Doshi's building does not show an avant-garde attitude. The building avoids making a monumental expression despite having a heavy articulated massing. There is no reductive functionalism; instead there is an effort to make multifunctional spaces, the courts, the plinths, the steps, the amphitheater and the landscape work communally. The building also hints at the socialist underpinnings and incorporate the socialist traditions in the history of the laborers of Ahmedabad as well as the spirit of Gandhi who stood boldly for the cause of labor in Ahmedabad. This is done by organization of the building around three courts and providing plenty of spaces for communal activity. The structural tools which Doshi uses in his concept of space and form is hybrid. The expressive potential of the space and form gains importance over the rigid notion of structural expression. This can

¹⁵¹ Curtis, William J. R. Balkrishna Doshi: An Architecture for India, New York: Rizzoli, 1988. p. 40.

be seen in the resolution of the various elements like the wall, the vaults, interplay of the columns and the piers at the Gandhi Labor Institute. The ornament of the building is the structural theme of the vaults which has been transformed into a highly articulated expression rather than a purist expression having rigidity of form.

Both Correa and Doshi show an endeavor towards formulating a modern architectural vocabulary in an Indian tradition. Each in his own way has tried to work out forms which integrate the more enduring principles of the modern architecture with the fundamental lessons of the past. Both buildings show a rear guard action against modernism as against a puritanical response. However, the Gandhi Labor Institute shows a more articulate expression in terms of the lessons learned from modernism compared to Correa's building.

The Gandhi Memorial Museum was completed in 1963 at a time when most of the buildings were heavily influenced by the International Style. To come up with a restrained and sensitive solution at that time can be considered more commendable. The Gandhi Labor Institute was built in 1984, at a time when there was already a wave of regional resurgence. Nevertheless, it is an example showing concern and a quest towards a critical regional form.

REGION, THE IDEA OF SCHOOL, AND THE TWO BUILDINGS

The two buildings also compare well in regard to Frampton's third axiom connecting

regionalism with the myth and reality of the region and the importance of a culturally conscious clientele. Ahmedabad has had the presence of a strong regional school of culture and architecture since the sixteenth century. The city had a illustrious history of flourishing textile industry, and was Gandhi's home between 1915 and 1930. Mahatma Gandhi disseminated the ideals of puritanism, frugality and the ethic of hard work to the city and this helped in the success of the city.¹⁵²

Before and after Independence, Ahmedabad was one of the foremost cultural centers of India. The textile-mill owners of Ahmedabad spent a large part of their fortune in establishment of the city's cultural and educational foundations after India's independence in 1947. The fact that Ahmedabad is one of the cities which boasts of more than three commissions of Le Corbusier's work, with the Sanskar Museum, the Millowner's Association building and the Sarabhai and Shodhan houses attests to its intellectual climate and economic prosperity unrivalled in India for a city of its size.

Ahmedabad was a thriving center for the artisans and craftsmen because of the building activities carried out by the Moghul kings (16th to 19th centuries). The styles of building underwent changes because of the merging of the Hindu and Islamic influences. Nevertheless, the indigenous traditions persisted to give the vernacular a local accent. Sandstone and wood were the principal materials used for the construction of the

¹⁵² Serenyi, Peter. "Timeless but of Its Time: Le Corbusier's Architecture in India" in Perspecta, Vol. 20, Cambridge: MIT Press, 1983. p. 93.

buildings in Ahmedabad. The religious and monumental buildings were constructed in stone whereas wood was employed for secular buildings.¹⁵³

Many changes occurred with the advent of modernism and the building construction activity in the region. Despite the technological changes in the building craft, the schools of the local artisans, carpenters, stone carvers and skilled workers persisted because of the numerous temple and traditional buildings commissioned from time to time. Under Doshi's leadership and Corbusier's encouragement the idea of a founding a School of Architecture for producing a new strain of educated architects having regional and traditional sensibilities was born in the 1960s. It was well supported by the leading educational trust of the city which had earlier supported many educational and research institutions including the old Gandhi Ashram. With teachers like Doshi and a visiting faculty which boasts of international architects like Kahn, Bernard Kohn, Frei Otto and Christopher Alexander the school developed a multifaceted thinking of dealing with issues of the vernacular as well as the international developments on the other. Thus Frampton's idea of a school finds an occurrence in the region. Overall, there has been a new quest for looking at modernity, tradition and technology in the present context by the new school of architecture and regional thought.

Both buildings have roots which stem from the base of a modernist vocabulary shunning elements in the works of other architects and many buildings in the city shows their

¹⁵³ Burton-Page, John. "Mosques and Tombs" in Michell George and Shah Snehal (Eds.). Ahmadabad, Bombay: Marg Publications, 1988. p. 108.

the use of ornament in the buildings. Therefore, they do not show an approach where one could find an appropriate reflection of the workmanship possessed by the artisans and the skilled craftsmen of the region. Correa has used exposed brickwork in the building which was the modernist vocabulary at the time after the design of the buildings in exposed brickwork by Le Corbusier such as -- the Sanskar Museum and the Sarabhai House and Louis Kahn such as the Indian Institute of Management.

On the other hand, Doshi uses lot of abstracted details from the traditional architecture of India. Evidence of abstracted and rich articulation in terms of the detailing is seen in the flooring and the execution of the vaults in the roof of the Gandhi Labor Institute. Abstraction of ornament is seen in the column capitals and the columns used in the building.

Both buildings, with the use of elements and the kind of spaces they make, could be said to fall into a category of the new regionalized school of the architecture of the region. They demonstrate how the two architects have used a particular kit of parts in the form of elements, disposition in plan and section as an appropriate climatic response. This kit of parts for example -- the modular section with sloping roofs and courtyards in case of Correa's building and the use of vaults, terraces and a particular kind of staggered heavy massing with internalized courtyards in case of Doshi's building. The repetitions of these elements in the works of other architects and many buildings in the city shows their success in terms of a regional solution as well as an adaptability which also hints at the

growth of a regional school of architecture.

Both buildings had a culturally conscious clientele which encouraged Correa and Doshi to work freely on indigenous and innovative solutions in terms of design for a region. The conviction of the clients and the freedom of designing given to the architects also played a significant role in shaping the buildings as they are. Thus these buildings epitomize the importance of a responsive and culturally conscious clientele, the formation of a school of architecture and tradition in the region as well as the propagation of particular ideology prevalent in the region.

RESPONSE TO CLIMATE, TOPOGRAPHY, NATURE AND TECTONIC FORM

Frampton's fourth axiom links regionalism to the dialectic of culture and civilization, and relates a regional solution with an appropriate response towards the climate, topography, light and tectonic form in the region. Correa's Gandhi Memorial museum, located on the flat site on the western banks of the Sabarmati River, in the present times is similar to a green island in the midst of the sporadic development rampant throughout the city. The topography of the museum site did not offer much in terms of undulations or a strong slope towards the river. Correa places the museum building in the front portion of the site. He employs a disaggregated organization on the site, partly a reaction to the flat topography of the site, partly a reaction to the earlier existing structures (vernacular), which dot the old Gandhi Ashram and partly to the program of the museum which asked for the design of a museum which would grow in time.

As a climatic response, Correa uses the idea of clustered modules around courts. This helps in the development of microclimate inside a building. The breeze blowing from the river enhances the cooling of the museum units when it flows over the water. The materials employed in the design of the museum are thermally conducive to cut the heat off in the hot and dry region. The sections through the museum generate a spectrum of conditions from the open-to-sky condition of the courts, the semi-open condition of the galleries and the lobbies to the closed box conditions.

The fenestration in Correa's building takes the form of wooden operable louvers with no glass which helps in either cutting off the light totally or bring controlled light into the interior in the museum. The design of the window is fundamentally opposed to air-conditioning or artificial modulation of climate as well as the optimum use of universal technique. Correa uses various landscape elements in the form of steps, plinths, seating spaces, trees with platforms, green spaces, foliage, also as a response to the climate. The seating near the embankment edge also gives the visitor a view of the vista of the river and the breeze emanating from the river.

The whole museum revels in the play of light and shadow. Play of light reveals the textural and tectonic quality of the construction in the museum. Simplicity reveals the tectonic form everywhere in the building -- it can be seen in the detailing of the flooring, the junctions, disposition of the reinforced concrete channels and gutters for disposing off the flowing rainwater into the sunken courts. In the monsoon, there is a play of rain in

the courtyards, filling up the sunken courts and washing the edges of the courtyards and highlighting the details. The landscape of the entire complex using bricks and cobblestone for paving, concrete and polished stone for the landscaped seating all enrich the detailing throughout the building and overall exemplification of architectonics in the building.

The design of the Gandhi Labor Institute also takes into account the nuances of dealing with the topography, climate, light and tectonic form. Doshi takes the advantage of the topography of the low level of the site to make the main arrival of the building at an elevated platform with the provision of a lower entry level. This has also helped to express duality in the building. The peculiar shape of the plot has also governed to a large extent Doshi's planning of the institute complex.

Doshi has also used a climatic base for centering the organization of the complex around three courts. Doshi uses the vaults as a response to climate and flat roofs which serve as terraces for communal interaction. The ferro-concrete vaults on the upper floors are finished with a mosaic of waste white glazed tile fragments which help to reflect the heat and glare off. Doshi has also used strong massing, thick walls, controlled size of apertures for the achieving a cool interior inside the building. For the walls, Doshi has used washed terrazzo finishes, which provide a crisp light sensitive surface. The surface resembles cut stone and the windows are seated deep inside these vaults. The polished stone flooring in the institute enhances the cool effect of the interiors. Doshi also uses landscape

elements like fountains -- for example one at the entrance forecourt which helps to provide a cool area for sitting near the entrance. The water body in the central courtyard as well as the circular water body near the amphitheater also serve as landscape elements as well elements for developing a microclimate in the court and the amphitheater.

The Gandhi Labor Institute speaks of many details which contribute to the tectonics and have a high level of resolution. Elements, like the wall, spring from ground rather than merely positioned on the earth, establishing a more effective rapport with the natural forces like the earth and sky. The way the vaults meet the wall, the way the wall resolves in the form of gutters, the way the wall makes an opening, the way the wall abuts to form hoods for the openings, the way a balcony forms out of a wall, the way the openings subdivide -- all reveal a poetic articulation and resolution of details.

The vaults becomes an important theme in the articulation of the design of the Gandhi Labor Institute in the interiors as well as the exteriors. The gutters and the channels form a rhythm punctuating the surface of the walls. Light is filtered in at the ends of the vaults, and the curved soffits create a sheltered and psychologically restful atmosphere. On occasion, the vaults are used over passageways and at many places the light quality emanating from the vaults is incident on the walls making patterns and revealing the junctions between the roof and the wall or the articulated flooring pattern.

Doshi uses a range of materials, old and new, aggregate, screed and plaster and china

mosaic which are restated in a new scope of expression. The colors that he employs in the Gandhi Labor Institute move away from the primary to the richer, more vibrant spread of earthy shades better attuned to the Indian light.¹⁵⁴ Doshi has created patterns using yellow and green polished stones for the flooring. Nature is also brought into the court by planting small shrubs and using water pools inside the building.

Both Correa and Doshi show climatic concerns at the root of their design. They take lessons from the vernacular and the traditional architecture for incorporating climatic design features. All this is made evident through the design of the main structure, the skin of the building surface modulations, the use of courts, terraces within and outside the building. Local material and its use also serve the purpose of climate. Both Correa and Doshi also, do not give way to the domination of universal technology; rather they try to relate the outer walls of their building and respond according to the local contingencies of climate, light and tectonic form. Both buildings show the dialectic of culture versus nature and Frampton's idea of the a building resisting against the globalization of building with standardization and optimization and building and an appropriate response to the local light, climate and materials.

VISUAL AND TACTILE AND THE TWO BUILDINGS

Frampton's fifth axiom relates to the issue of the opposition between the visual and tactile

¹⁵⁴ Varkey, Kurula. "Themes and Ideas" Architecture + Design, Vol. 5, No. 2, Jan.-Feb., 1989. p. 33.

in regard to the two buildings. In addition, Frampton suggests that the presence of the tactile dimension in an architectural form is also a potential strategy for resisting the domination of universal technology. The air-movement through a building, the acoustics, ambient temperature and smell; all are important factors which affect the experience of a space and enrich the tactile experiences.

One approaches the Gandhi Memorial Museum from a dusty, busy traffic road of the city and is taken in into the green island with a conglomeration of roofs and plenty of trees offering the idea of a rustic environment. The cool breeze flowing from the vast expanse of the river adds to the tactile component in the complex. The way the building is organized, offers a range of choices in terms of the path one can choose to experience the building. The meandering route analogous to a village layout helps unravel the varied hierarchial spatial sequences throughout the complex. One goes from the noisy road to the structured varied spaces in the museum to the meandering path to the old Gandhi Ashram to the river banks and then all around the museum.

The organization of the building around courts helps to get the tactile elements like the wind and the rain and the visual elements in the form of sky into the building. The building uses a combination of both plastered and exposed brickwork finishes and the varied materiality of the finishes reveals the play of visual and the tactile dimension. The humanly-scaled section, the nature of the openings emphasizing horizontality, the windows devoid of glass also suggest strategies for enriching the tactile component in the

building. The courts have vegetation in the form of flowering shrubs and the mango trees in the rear end of the site which help in circulation of a sweet and fragrant aroma around the building.

Polished kotah stone flooring in the museum and the cool breeze emanating from the courts passing over the flooring generates a cool effect in the museum. The flooring has psychological and symbolic connotations too. Walking over the cold flooring, one is reminded of the austerity and simplicity in Gandhi's life as well as the hard won struggle for Independence led by Mahatma Gandhi. The Ashram complex has tactile presences in the form of the varied flooring -- the chipped stone flooring, the brick paving, areas with sand and so forth.

The courts help to get the tactile essence of nature in the museum in the form of a waft of falling rain, patterns of light and shade, changes in humidity, acoustics created by the rain falling on the floor and so forth. The museum complex offers chirping sounds of the birds on the trees on one hand and the din, laughter and frolics of the school kids visiting the museum complex on the other.

Like Correa's building, the Gandhi Labor Institute is also sited on a busy, main traffic artery located on the outskirts of the city. However Doshi has slightly laid back the building so as to create a forecourt. The diagonal entrance helps in enriching the experiential aspect of the paved floor, grassy earth hugging mounds, the trees and the

water, the surface modulations of the walls, the rhythms of the vaults, the progressing plinths and the shallow flight of steps leading to the main entrance. A water fountain flanking the entrance steps helps to freshen up the immediate environment in the hot and sultry summer months.

Doshi tries to organize circulation around multiple centers in the form of courts which relate to each other instead of culminating the route of the movement around a single center. The courtyards again bring the element of nature in the form of rain, light and shade patterns, humidity, aroma because of the flowering shrubs into the building. The vaults, the framed portals, the semi-open spaces, the courts -- all offer varying experiences in terms of the visual as well as the tactile.

Doshi's architecture in the Gandhi Labor Institute is poetic, earthbound and sensual. The vaults, gutters and sluices dramatize the fall of the rain. The elements like the plinths, steps, and platforms invite people to sit and interact and thus make the environment communal. The amphitheater in the rear of the site, the terraces on the first floor level and the courts provide areas of discussion or quiet moments of contemplation giving people shared and collective experiences.

The difference in the nature of the program of the two buildings also has an effect on the experiential dimension. Gandhi Memorial Museum, being a museum, is a public building, and therefore offers a more public experience. The Gandhi Labor Institute, on the other

hand, being an institutional building offers more semi-private and private experiences.

sacredness associated with

Both buildings show that the tactile and the tectonic jointly have the capacity to transcend the mere appearance of the technical. The concept of the environment where the body as a whole is seen as being essential to the manner in which it is being experienced can be seen in the two buildings.

SPACE VERSUS PLACE AS SEEN IN THE TWO BUILDINGS

Frampton's last axiom relates to the issue of making of places as against mere spaces in buildings. Frampton suggests the idea of a bounded domain and the relationship of a building with regard to the earth and the sky as important in making of form as place.

Correa uses disaggregating architectural form as an appropriate perennial response to the Indian climate.¹⁵⁵ He uses the articulated expression of the modular units for making bounded domains, centers, sub-centers and paths in the design of Gandhi Memorial Museum for transforming in into a place instead of a space. The main theme in the museum is the grouping of the modules in an orthogonal grid but yet in a casual, meandering pattern so as to create place patterns analogous to ones found in the Indian villages.

¹⁵⁵ Charles Correa explains his idea of disaggregation in "Transfers and Transformations", Khan, Hassan-Uddin (Ed.). Charles Correa. Singapore: Concept Media Pte. Ltd, 1987. pp. 166-175.

The high plinths and stepping up to most buildings in the complex relates well to the sacrality associated with Gandhi and the museum. The pyramidal roofs do not assume a rising character, rather they assume a protective role over the museum. The horizontally extended cluster of the museum and the other buildings gathers itself together as well as the local character of the by-gone days in the place.

The museum complex has bounded domains which include nature and the human-made building. The steps at the rear of the site gradually slope down to the river signify a transition between two domains. Although the nature of the landscape around the building is romantic, the buildings give a sense of abstract order, almost cosmic in character and aiming at spiritual aspiration. There is simplicity and restraint in the use of materials by Correa for expressing the simplicity in design. The feeling of boundaries is strengthened by the Correa's use of modules in the structures, and centering it around the courts. Vegetation and the promenade of the trees also strengthens the feeling of enclosure and domains on the site.

Doshi structures the domains in Gandhi Labor Institute around a system of centers and sub-centers which take the form of courts. The building centered around the main core could be seen as the major portion; the other addenda have small courts. Doshi tries to make bounded domains breaking up the building into small parts which form a larger whole. This larger whole is then wedged into the landscape to make it a complete whole.

A basic difference in the making of bounded domains again stems from the nature of the program of the building. It also reflects on the nature of courts of the building. Correa uses the courts in his buildings to get light and various elements of nature in the form of rocks, vegetation into the building. However the courts assume a spiritual character, are sunk spaces and discourage use by people. They are like a sacred object in the center of the museum amidst pathways. The pathways therefore take the role of a meditative ambulatory rather than being a mere connecting space. The communal interaction in the building takes place in the landscape outside the museum.

Doshi, on the other hand, wedges the landscape as well as the communal activities into the building. His courts are used for communal interaction. The domains form places as spaces of the institution flow into the courts. The bounded fragments of the corridors also spill over into the courts.

Although Doshi attempts to create ambiguity in the experience of the building, the organization of the building is such that the various elements almost lead the visitor to see the building. The meandering quality which was seen in Correa's building seems to be missing. However, in terms of the employment of formal elements of design, there is more stronger layering of space because of the plinths, steps, and the amphitheater in the Gandhi Labor Institute. Because of the strong massing and the enveloping walls, the building has a stronger protective character. There are elements of surprise and discovery in the entire building. Because of the strong geometrical volumes and spaces in the

building it gives a more controlled atmosphere in the interiors. The hooded and sunk windows add to this quality. The Gandhi Labor Institute takes the approach of a shaded retreat as a response to the hot and dry climate compared to the spiritual garden quality found in Correa's building.

The Gandhi Labor Institute offers more intricate patterns and poetic articulation of form in terms of the elements he uses for the concretization of the space. compared to Correa's building. The vaults appear as a stronger element as against the pyramidical roof form for relating the building profile to the sky. The building is more rhythmic because of the disposition of the vaults, carried down to the folding walls, the gutters, and the sluices. The Gandhi Memorial Museum on the other hand offers simple rhythms and tries not to be distracting and asking too much attention from the observer.

The Gandhi Labor Institute offers a stronger resolution and the character of the walls in the front facade, the courtyard facade and the rear garden facade varies according to the function. The walls meet the earth in a layered natural and man-made floor. All the elements interrelate with each other and the various forces at play offer a human scale and identification. All the elements make levels of bounded fragments inside and outside the complex. The feeling of enclosure is also strengthened because of the tall trees and the vegetation on the site which contribute to the articulation of the broad domain in the site.

On the other hand, the Gandhi Memorial Museum offers a simple articulation of the details. The building does not have as strong a gathering quality as Doshi's building. The walls simply meet the ground, although there is articulation at the level of the plinth and the walls. The floor is given importance in terms of articulation but the museum does not have the layering attitude as Doshi's building shows. This also decreases the gathering quality of the museum.

However, the landscape is given a greater attention in the design of the Gandhi Memorial Museum. The site forces are stronger and so Correa's building becomes secondary in the site because of the rich and green landscape. On the other hand Doshi gives more importance to the building. The landscape fits like a wedge into the building.

On the whole, there is a rich density of themes in the design of the elements of the Gandhi Memorial Museum and the Gandhi Labor Institute. The small themes help to reinforce the larger theme of an overall articulated form. This helps in making the bounded fragments and domains contribute to the making of a place as against a space. The overall result of the concretization of the elements is the unity within diversity. The properties that these elements reveal are not only distinguished by the variety but also by the constitution of an imagable whole. Overall, both buildings adhere to Frampton's proposition of making an effort to transform mere spaces into places and trying to constitute a genius loci.

After having discussed Frampton's six axioms and the two buildings which form the conceptual spine of the framework for a regionalist built form, I now try to appraise the idea of critical regionalism as it emerges after the examination of the two buildings.

PART 2: CRITIQUE OF FRAMPTON'S CRITICAL REGIONALISM AND THE TWO BUILDINGS

Frampton's idea of regionalism attempts to put back into architecture the continuity in a given place between its past and its present. Regionalism has a special meaning in the third world countries, where, the effect of Modernism's break with the past have been compounded by a drastically speeded up rate of development. Critic Chris Abel remarks, "For the inhabitants of these countries, the business of deciding what does or does not belong to the region acquires a political and emotional dimension that smack of a basic struggle for cultural survival, frequently couched in the plaintive terms of a 'search for identity'."¹⁵⁶

In this sense one could argue that Frampton's idea of critical regionalism comes across too generally. The axioms which envelop his idea encompass a broad range of issues dealing with the essential difference compared to the vernacular of the region, the effect of the modern movement, the myth and reality of the region, culture versus nature, visual versus tactile and space versus place. The developing countries have a different kind of

¹⁵⁶ Abel, Chris. "Regional Transformations", The Architectural Review, Vol. 180, No. 1077, November 1986. p. 37.

problem -- these countries still have strong traditions and varied level of modernization across their boundaries.

Frampton's issues are genuine and his poetic argument forms a highly intricate web of words and in taking his axioms for analysis one has to use one's own discretion and understanding. The same seems to be true for his concept of critical regionalism. All the axioms are linked with one another. Architects may choose to take a particular stand in their design decisions and stress some particular themes in their works. For example Correa and Doshi's architecture is highly eclectic. It draws freely from diverse influences as Le Corbusier, Louis Kahn as well as the traditional Indian architecture. Correa takes a response to climate and history as the base for most of his designing. On the other hand Doshi takes a strong stand for designing communal spaces in his buildings. His buildings have a goal of having shared experiential quality, fostering an ideal of cohesive community and giving space-psyche experiences. Both architects address various issues which are discussed in Frampton's criteria for a regionalist work but refrain from calling themselves regionalists. Frampton's notion of critical regionalism, thus could also rightly be called an architecture of resistance or a responsive approach to architecture.

In the discussion of his first axiom, Frampton suggests that regionalism should not be sentimentally identified with the vernacular. Even the most favored architectural images and interpretations of local culture and vernacular are suspect and may have been assimilated in the region over a long period of time. What may not belong to a region

may over time take a regional attribute. How does then one determine what precisely the regional characteristics are? The example of Louis Kahn's Indian Institute of Management is an example of this. With the use of exposed brickwork in the design of this building, there was a major shift in the style of building in Ahmedabad. Critic Thomas Schumacher says, "Kahn brought forms that were not indigenous but adapted well the climate and technology of the locale."¹⁵⁷ This has helped brick to emerge as a strong regional characteristic in Ahmedabad.

The critics also play a major role in classifying buildings as regional. As Frampton himself points out, regionalism is distinctive from all the other stylistic notions as Frampton himself points out. However, one can judge a building in a region only by becoming an insider into a place. Formal relations to history, vernacular and tradition could be a cover to conjure up intents. A critical judgement of the architect and the building can come only after there is distance between the time the building was built and when it is evaluated.

In his argument for culture versus nature, Frampton identifies many examples which are questionable as critically regional. For example, he cites Mario Botta's work as being example of regional architecture. He writes,

A mode of beholding and acting brings close once again to Heidegger's

¹⁵⁷ Schumacher, Thomas. "Regional Intentions and Contemporary Architecture: A Critique" in Speck, Lawrence (Editor) "New Regionalism", Center, A Journal for Architecture in America, Vol. 3, New York: Rizzoli, 1984. p. 54.

etymology; at the same time it evokes the method alluded to by the Swiss architect Mario Botta as "building the site." It is possible to argue that in this case that in this last instance the specific culture of the region that is to say, its history in both a geological and agricultural sense -- becomes inscribed into the form and realization of the work. This inscription, which arises out of "in-laying" the building into the site, has many levels of significance, for its capacity to embody in the built form, the pre-history of its place, its archaeological past and its subsequent cultivation and transformation over time. Through this layering into the site the idiosyncracies of place find their expression without falling into sentimentality."¹⁵⁸

In this discussion Frampton talks about historical references as unsentimental. However it is difficult to draw a fine line between sentimentalism and interpretations. The interpretations without the idea of memory and sentiments associated with history could become difficult to understand.

In his discussion, articulating the idea of visual versus tactile and space versus place, Frampton borrows from Heidegger and claims to use a phenomenological base to present his argument. But his approach is disjunctive at times and could be understood as having more heavy inclination towards the formal attributes of the building rather than stemming from a complete phenomenological base. Several of his regionalist examples which cites - for example the Casa Rotunda House at Stabio fall short of meeting his own criteria. The building mentioned does not have the 'gathering' quality which transforms the space into a place. The building simply appears as a primary volume on the ground making no

¹⁵⁸ Frampton, Kenneth. "Towards a Critical Regionalism: Six Points for an Architecture of Resistance," in Foster, Hal (Ed.) The Anti-Aesthetic: Essays on Post-modern Culture, Seattle, WA: Bay Press, 1983. p. 26.

relations with the earth and the sky. In this example, he emphasizes the craft employed in the building and tectonic quality as the important criteria.

At times, Frampton stresses just some aspects of a building, which he then calls regional. Local craft and tectonics is an example in this case. No doubt, these factors contribute to the making of a regionalist building, but do not assume prime importance as against more primary attributes for making the building a place. In this instance, with regard the discussion of tectonic form, Frampton writes,

"The supression of the construction through the elimination of the framework or the masking of the joints deprives architecture of its expressiveness, so that the architectonic significance of the work becoming obfuscated and mute."¹⁵⁹

Doshi's Gandhi Labor Institute is an example where the architect does not rely on the pure notion of structure. It is ambiguous in many ways -- for examle, the terrazzo wash which is like a skin over the building which helps to articulate the entire mass, relate the building strongly with the earth. There is a covering of white china mosaic on the vaults which help to soften the element against the sky. However, this does not render the building as being representational in nature. Frampton's structuralist-marxist approach in the rendering of his argument gives only an abstract quality to the phenomenological aspect. Essentially for a building to be regional it has to be seen that how as a whole it is responsive to a place.

¹⁵⁹ Frampton, Kenneth. "Ten Points on An Architecture of Regionalism: Towards a Provisional Polemic" in Speck, Lawrence (Editor) "New Regionalism", Center, A Journal for Architecture in America, Vol. 3, New York: Rizzoli, 1984. p. 26.

In the argument of space versus place, it is difficult to construct a purely architectural theory on Heidegger's ideas. For Heidegger, the act of building has implications so specific in the metaphysical sense, that any discussion of architecture does not do justice to it. Frampton in his argument simply translates the word Raum as 'place' and gives it an abstract quality, which is far from Heidegger's thought.

I would here borrow from Norberg-Schulz, who explains how the relationship between man and nature and therefore space and place is affected because of the essential point of departure from the phenomenology seen in Frampton's Marxist thought. Norberg-Schulz suggests that in Marxism, man as a biological being is a part of nature. Nature is viewed as an objective reality and defined as 'matter.' Man tries to achieve mastery over nature and man's consciousness in both content and form is a reflection of nature. Matter in the Marxist thought does not exist except for its concrete manifestations and does not cover the phenomenological attributes of meaning, character and the psychological aspects of orientation and identification. Because of this Norberg-Schulz remarks, "Marxism does not arrive at a fundamental understanding of 'dwelling' and fails in its attempt to win human alienation."¹⁶⁰ He explains that alienation is because of the loss of identification in the environment. This loss also hinders the process of 'gathering' and therefore results in places becoming mere spaces.

¹⁶⁰ Norberg-Schulz, Christian. Genius-Loci: Towards A Phenomenology of Architecture, N.Y.: Rizzoli, 1984. p. 168.

The brief of the client and the program are important factors which an architect has to address. Frampton rightly asserts the importance of culturally conscious clients for the making of a regionalist building. But in the capitalist world of today, regionalism is almost like an experiment conducted by a wealthy client. Even these clients on one hand wish to maintain their mobility, flexibility and wealth acquired by the industrialization of the world of today. On the other hand, these sensitive intellectuals seem to be troubled by the fragmentation that has come about because of the modernization and industrialization. Curtis rightly remarks, "Some of the most beautiful regionalist experiments are undertaken for the rich, cultivated collector of the handicrafts. Another obvious outlet is the sophisticated hotel where the battered souls of the advanced industrial nations can be soothed by a swimming pool and a little piped folklore."¹⁶¹

How does one go about articulating these complex issues of critical regionalism in a world which is highly technology oriented and aiming at global universalization? One also wonders if the entire argument is tantamount to a nostalgic regression or a romantic notion of some kind where we want to return to the golden age which never was. This is more so because continuing modernization and its escalation seems like an inevitable process. On the other hand a radical turn to tradition both seem to be difficult choices.

However, the idea of critical regionalism is meant to be in the form of a questioning and

¹⁶¹ Curtis, William. "Towards An Authentic Regionalism", MIMAR, Architecture in Development, Vol. 19, January-March 1986. p. 25.

constructive proposal rather than a prescription. Critical regionalism as discussed earlier poses a region's characteristics as against a universal technological norm. It can be seen as a reaction against the dominance of international technology. Critic Schumacher suggests, "The architect has no guarantee of regional identification unless he consciously reuses the forms that are already associated with the locale."¹⁶² Again when most qualities are the products of importation and naturalization, how does one evaluate the appropriateness of the imports? Schumacher suggests that "Regional differences are like certain ethnic traits which are perhaps best left alone to percolate up through the structure of more universal values".¹⁶³

The importance of the idea of critical regionalism lies in its questioning attitude and the fact that it is timely. The examples which Frampton cites as regional may be debatable but nevertheless, a work of architecture and a theory are needed to open up a dialogue for a new perspective and elaborating the components of regionalism. Numerous critics have presented the idea of regionalism with various vantage points. None of them has tried to be precise enough to lay down a criteria for making or judging a regionalist building. It is difficult to concretize most of their points raised in their discussions into a guideline of some kind.

¹⁶² Schumacher, Thomas. "Regional Intentions and Contemporary Architecture: A Critique" in Speck, Lawrence (Editor) "New Regionalism", Center, A Journal for Architecture in America, Vol. 3, New York: Rizzoli, 1984. p. 55.

¹⁶³ Ibid., p. 57.

On the other hand, most of the abstract qualities Frampton's associates with critical regionalism are in the form of a proposal and speculative manifesto.¹⁶⁴ It Frampton suggests, "These [axioms] obviously open to a series of issues that require extensive debate, and surely it is necessary, since only through such questioning will we ever arrive at any kind of reliable "ground" upon which a significant, if marginal, practice of architecture might still be pursued."¹⁶⁵ Perhaps as Curtis also has noted, "The moment is right for the assertion of an architectural value system that eschews the aridity off-hand utilitarianism and the bogus remedy of 'phony' historicism."¹⁶⁶ The proposal of critical regionalism is, as Frampton suggests, "a concept of the environment where the body as a whole is seen as being essential to the manner in which it is being experienced."¹⁶⁷

On the whole, Frampton's argument for critical regionalism is strongly influenced by the Marxist doctrine and the Frankfurt School. In the use of both the term and the concept 'critical' and a critical theory, the influence of this school is visible. Explaining the idea of critical theory, Demetri Porphyrios in a critique explains, "For Horkheimer, Adorno, Benjamin, the conception of critical theory seems to be determined by whether the theory

¹⁶⁴ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic," in Speck Lawrence (Ed.) "New Regionalism", Center, A Journal for Architecture in America, Vol. 3, N.Y.: Rizzoli, 1984. pp. 20-27.

¹⁶⁵ Ibid., p. 22.

¹⁶⁶ Curtis, William. "Towards An Authentic Regionalism", MIMAR, Architecture in Development, Vol. 19, January-March 1986. p. 24.

¹⁶⁷ Frampton, Kenneth. "Ten Points on an Architecture of Regionalism: A Provisional Polemic," in Speck, Lawrence (Ed.) "New Regionalism", Center, A Journal for Architecture in America, Vol. 3, New York: Rizzoli, 1984. p. 27.

ensures the reproduction of ideologies in dominance or whether, on the contrary it subverts them.¹⁶⁸ "Traditional history, we may recall 'organizes experience on the basis of the problems arising from the reproduction of life within present society.' On the other hand, critical history aims at bringing the contradictions of the society under study to consciousness."¹⁶⁹ In regard to this ideology, Frampton's argument for critical regionalism is critical because it brings out contradictions of a world culture and globalization on one hand and nature and tradition on the other.

Finally, architecture has to be finally seen as a whole rather than a sum of parts and therefore most of the points in the discussion of the axioms overlap. Both buildings discussed can be said to be regional because they try to work towards the notion of a responsive architecture. The idea of this regionally responsive architecture by Correa and Doshi has helped to bring about a questioning attitude towards what are the characteristics of Indian architecture. The search is complex because India possesses a vast range of indigenous building forms. These forms reflect varied regional differences in culture, region, climate and geography of the place. In addition to this there is also eighteenth and nineteenth century colonial architecture and twentieth century modernism to be assessed for the contributions which they can make towards the development of a regionally

¹⁶⁸ Horkheimer, Adorno and Benjamin are peers of the Frankfurt school of thought. Frampton also discusses them in Frampton, Kenneth. "Appropos Ulm and Critical Theory," Oppositions, Vol. 3, N.Y.: Institute of Architects and Urban Studies, May 1974.

¹⁶⁹ Porphyrrios, Demetri. "The thicket is no Sacred Grove," in Frampton, Kenneth (Ed.). Modern Architecture and the Critical Present, Architectural Design Profile, N.Y.: St. Martin's Press, 1982. p. 56.

responsive Indian architecture.

Perhaps, critic Juhani Pallasma's words can sum up the laying of the idea of regionalism in the world of today. He says, "Regionalism in the industrial world cannot any longer be founded on a set of isolated and perfectly integrated conditions. Perhaps the most meaningful form of cultural survival that remains is a regionalism of the mind, the strategy of resistance, the sub-culture that believes in and searches for authenticity. Not authenticity on ethnographic grounds but that of human experience and interaction."¹⁷⁰

FUTURE DIRECTIONS AND SCOPE

How to use history without lapsing into pastiche, how to reconcile with the demands of industrialization with the more subtle demands of context and culture, and how to apply the lesson that can be learnt from traditional practices are the issues which become crucial after the discussion of the Frampton's axioms and the two buildings. There are no precise and specific answers to these issues. It is here that the critical discernment of the architect comes into play in the designing of a built form. Because of the different interpretations as seen in the works of Correa and Doshi, the interpretive nature of regionalism stands out.

¹⁷⁰ Pallasma, Juhani. "Tradition and Modernity: The Feasibility of Regionalism in a Post-Modern Society," The Architectural Review, Vol. 183, No. 1095, May 1988, p. 34.

One understands the importance of the tactile component and the role of experiential aspect in a building. The understanding of a building as a small part in a broad context and region which is viewed as a whole comes forth after the study of the building. A cultural investigation coupled with an investigation of what constitutes a place is another important lesson learned from the thesis. There are many ways by which an architect can read a context, a region and the tradition of a way. This thesis shows how Correa and Doshi have used varied interpretations reflecting the regional content in their buildings. This thesis also gives a further direction of how one could delve into the design process as linked with a regional solution. Varied case studies of significant works in the region could contribute to understanding of regionalism as a design process.

Similarly, the regional character of the place taken up for study could be made more explicit if some other significant buildings in the region are taken up for evaluation. A comparative study of this kind could further help to highlight the regional constituents of a place concretized in the building form. One could also take a comparison between the vernacular of the region and the contemporary design being realized.

Frampton's approach for critical regionalism is one way to read a regional building. If one takes up similar case studies and tries to analyze them according to Frampton's point of view one could further illustrate the weaknesses and strengths in Frampton's approach. Besides Frampton's idea of critical regionalism, one could try to make a framework out of other critics who have written about regionalism in architecture. Curtis' work in this

direction is also important and one could try to compare his approach with Frampton's approach. One could even try to read a building using the two critics in an attempt towards generating guidelines for a regional response. Another important direction could be the study of authenticity in terms of a regional response.

Frampton's approach emphasizes a self-conscious approach towards a regional architecture. On the other hand there could also be a study of an unself-conscious and phenomenological approach in which a person by becoming a sensitive and critical insider can deal with the issue of designing for a region. With further research and a questioning attitude in these directions, one could start building a responsive attitude towards architecture. A study in this direction could also makes an architect aware of the genius loci of the region in which he is building. On the whole, it will create a certain amount of awareness about designing in a region and creating an architecture of place.

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